

Major Acquisition Programs

This chapter provides background on key acquisition programs the Marine Corps is pursuing. Many of the programs are joint efforts with Marine Corps participation or leadership, and many of the Aviation Combat Element (ACE) programs are funded with Navy appropriations. Rather than attempt to discuss every one of the nearly 600 acquisition efforts currently involving Marine Corps participation, this chapter highlights some of the larger programs that either enter production in the near term or that exploit technological advances to improve our interoperability with the joint force; Marine Air-Ground Task Force (MAGTF) command, control, communications, computers, and intelligence (C4I); MAGTF speed, mobility, and firepower; and, the logistical operations of sea-based forces.

Acquisition Programs and Terms

This chapter is divided into five sections. The first four sections address significant programs integral to the Command, Ground Combat, Aviation Combat, and Combat Service Support Elements of MAGTFs. The final section addresses general MAGTF support programs. Program acquisition estimates are current as of the printing date of Concepts and Programs, and may not reflect the final quantities procured during FY 2005-2006.

Note on Acquisition Terms

The descriptive summaries of the programs addressed throughout this chapter frequently refer to Department of Defense acquisition phases, decision milestones, or categories. These are as follows:

Concept Refinement and Technology Development (Milestone A)

This is the pre-systems acquisition phase, during which initial concepts are refined and technical risk is reduced. Two major efforts that may be undertaken in this phase are Concept Refinement or Technology Development. Concept Refinement typically consists of short-term concept studies that refine and evaluate alternative solutions to the initial concept, and provide a basis for assessing the relative merits of these alternatives. Technology Development is an iterative discovery and development process designed to assess the viability of technologies, while simultaneously refining user requirements.

Under the legacy acquisition model of 1996, these efforts were described as **Milestone 0**, which is entry into Concept Exploration, and **Milestone I**, which is entry into Program Definition and

Risk Reduction.

System Development and Demonstration (Milestone B)

This is the phase in which a system is developed. Work in this phase includes reduction of integration and manufacturing risk; ensuring operational supportability; human systems engineering; design for the ability to produce; and, demonstration of system integration, interoperability, and utility. Under the legacy acquisition model, this effort was described as Milestone II. Post-Milestone II activities, however, also included manufacturing development and operational testing, which are now performed after Milestone C.

Production and Deployment (Milestone C)

This is the phase in which the operational capability that satisfies mission needs is ensured through operational test and evaluation. This evaluation determines a system's effectiveness, suitability, and survivability. The designated Milestone Decision Authority may decide to commit to production at Milestone C, either through low-rate initial production for major defense acquisition programs, or full production or procurement for other systems. The legacy acquisition model describes most of these efforts as post-Milestone III activities. **Milestone III** was described as Production, Fielding, Deployment, and Operational Support.

Acquisition Categories (ACAT)

The Department of Defense categorizes acquisition programs into several categories, generally based on their cost-measured in FY 2000 constant dollars-or testing require-

ments. This categorization is then used to identify oversight and approval requirements. A description of the most commonly discussed levels follows.

ACAT I: These are the largest acquisition programs and are also known as Major Defense Acquisition Programs (MDAP). To achieve this level of designation, a program must exceed \$365 million in Research and Development funding or exceed \$2.190 billion in Procurement funding. The Marine Corps currently leads two ACAT I programs—the Advanced Amphibious Assault Vehicle Program, which will produce the Expeditionary Fighting Vehicle, and the V-22 Osprey Program. The Marine Corps also participates in numerous joint ACAT I programs, including Global Broadcast Service and the Joint Tactical Radio System. ACAT I programs have two subcategories: ACAT IC and ACAT ID.

ACAT IA: These are the largest automated information system (AIS) acquisition programs. There are several cost thresholds for this level, which include AIS programs with single year funding, in all appropriations, in excess of \$32 million; total program cost in excess of \$126 million; or, total life-cycle costs in excess of \$378 million. ACAT IA programs have two subcategories: ACAT IAM and ACAT IAC.

ACAT II: These programs do not meet the threshold for ACAT I, but have Research and Development funding in excess of \$140 million or Procurement funding in excess of \$660 million. They are also known as Major Systems. The Marine Corps currently funds three ACAT II programs, including Medium Tactical Vehicle Replacement and Common Aviation Command and Control System 2. It also leads one joint ACAT II

program, which is the Lightweight 155mm Howitzer, and participates in two other joint ACAT II programs.

ACAT III: Programs that do not meet the cost threshold for ACAT I or II and involve combat capability are designated ACAT III or IV programs. Within the Marine Corps, the designation generally depends on the level of program management and oversight assigned by Commander, Marine Corps Systems Command. The Marine Corps currently manages more than 20 ACAT III programs, leads approximately 12 joint ACAT III programs, and participates in another 27 joint ACAT III programs. This level includes less-than-major AIS programs.

ACAT IV: ACAT programs not otherwise designated ACAT I, IA, II, or III are designated ACAT IV. ACAT IV programs have two subcategories: ACAT IV(T) programs, which require Operational Test and Evaluation, and ACAT IV(M) programs, which do not. The Marine Corps currently manages nearly 90 such programs, and leads or participates in more than 20 joint ACAT IV programs.

MAJOR ACQUISITION PROGRAMS

Command Element Programs

Part 1



Global Broadcast Service



Description

The Global Broadcast Service (GBS) system is a receive-only satellite communication system that provides near-world-wide, high-data rate, one-way dissemination of large information products. Examples of these products include classified and unclassified imagery and video, theater message traffic, joint and service-unique news, weather, and morale, welfare, and recreation programming to deployed or garrison forces via small user platforms. GBS will be accessible from 65 degrees north latitude to 65 degrees south latitude.

Operational Impact

GBS will augment other communications systems and provide a continuous, high-speed, one-way information flow to deployed, mobile, or garrison forces. GBS will support routine operations, training and military exercises, special activities, crisis, situational awareness, weapons targeting, reconnaissance, and the transition to and conduct of opposed operations short of nuclear war. The system will consistently

provide the warfighter with information that allows him to take action inside the decision cycle time of his adversaries

Program Status

The GBS is a joint program and is currently in a pre-Milestone C status. The Marine Corps currently possesses 13 Low Rate Initial Production (LRIP) GBS receiver suites provided by the Joint Program Office. All three Marine Expeditionary Forces have at least one GBS receive suite and are using the technology to support exercises and operations within their respective areas of operation. These receive suites are also being used for test and evaluation purposes to assist in defining manpower, training, and concept of operations issues.

The program is currently conducting a “technology refresh” to upgrade the receive suites with an Internet Protocol (IP)-based, commercial off-the-shelf architecture. This new architecture will provide users with a smaller, lighter, more agile system. The first developmental/operational test on the IP-based system occurred in December 2003. The second test took place in March 2004. The third test took place in July 2004. Upon successful testing, the Marine Corps will proceed with its own LRIP procurement decision for eight terminals. A joint-Milestone C decision is scheduled for FY 2006 based on subsequent testing. The approved acquisition objective for GBS is 81.

Procurement Profile:	FY 05	FY 06
Quantity:	8	40
Developer/Manufacturer:	Raytheon, Reston, VA	

Global Command and Control System

Description

The Global Command and Control System (GCCS) is a comprehensive, world-wide classified and unclassified network, which provides the National Command Center (NCC), Joint Staff, combatant and functional Unified Commands, services, defense agencies, Joint Task Forces (JTFs), and their service components with information-processing/dissemination capabilities required for the command and control of forces. GCCS encompasses the policies,



procedures, and systems to provide information for data sourcing and monitoring, planning and execution of mobilization deployment, employment, sustainment, redeployment, and force regeneration activities associated with command and control of military operations. GCCS builds on the technical developments, products, procedures, and integration strategies employed to take advantage of lessons learned. The GCCS provides the warfighter with one common, interoperable picture on any computer hardware platform that is plugged into a single world-wide web network.

Operational Impact

GCCS is used over the spectrum of command from the Secretary of Defense to the operational level, giving the JTF commander the means to exercise authority and direct assigned/attached forces in the accomplishment of the mission. GCCS allows the Marine Corps component to share information with service-specific and

JTF elements. GCCS provides total battlespace information to the warrior. GCCS supports decision-making processes in environments that may or may not provide all necessary information. The major functional areas impacted by GCCS are force generation, force deployment/redeployment, planning functions (deliberate planning and crisis action planning and execution), force sustainment, force readiness, intelligence, situational awareness, force employment, and force protection.

Program Status

GCCS is a joint mandated, C2 automated data processing "system-of-systems," which provides Command and Control, Communications, and Computers and Intelligence capabilities for Marine Corps commands participating in joint planning and execution. GCCS consists of common hardware, a common operating system, common software, and C2 applications. The C2 applications include joint segments that are developed and maintained by the Defense Information Systems Agency under the sponsorship of the Joint Staff; Executive Agent segments that are developed and maintained by one of the military services under the sponsorship of the Joint Staff; and, service mission specific segments that are developed and maintained by each service under the sponsorship of that service's organization.

Procurement Profile:		FY 05	FY 06
Quantity:	Client	0	0
	Server	0	0

Developer/Manufacturer:

Clients: IBM, White Plains, NY

Servers: Sun Microsystems, Santa Clara, CA

Global Command and Control Systems-Integrated Imagery and Intelligence (I3) Initiative

Description

The Global Command and Control Systems-Integrated Imagery and Intelligence (I3) Initiative, (GCCS-I3), is a joint program in which the Marine Corps participates. The program enhances operational commanders' intelligence-situation awareness and track management. It uses a standard set of integrated tools and services to maximize commonality and interoperability across the tactical, theater, and national communities. The GCCS-I3 operates in joint and service-specific battlespace, and is interoperable, transportable, and compliant with the Common Operating Environment (COE).



Operational Impact

The GCCS-I3 is the core software for the Intelligence Analysis System Family of Systems, which is the senior system in the System-of-Systems concept. The GCCS-I3 Initiative works to ensure that the systems' software is interoperable with the Marine Corps communication and data transmission systems. Several Marine Corps Intelligence Systems utilize GCCS-I3 as their core software and/or individual segments as major components of their software baseline, including:

- Technical Control and Analysis Center (TCAC);
- Topographic Production Capability (TPC);
- Tactical Exploitation Group (TEG);
- Counter Intelligence/Human Intelligence (HUMINT) Equipment Program (CIHEP);

- Tactical Combat Operations (TCO);
- Tactical Remote Sensor System (TRSS);
- Joint Surveillance Target Attack Radar System (JSTARS);
- Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES); and,
- Advanced Field Artillery Tactical Data System (AFATDS).

Program Status

The GCCS-I3 Initiative has several long- and short-term goals to enhance the interoperability and procurement decisions for Marine Corps intelligence systems. In the long-term, this program seeks to achieve an integrated, fully interoperable Marine Corps Intelligence System-of-Systems. During the near-term, the program seeks to establish a process, and a corresponding set of procedures, designed to allow the Marine Corps to make informed procurement decisions in its efforts toward achieving the long-term goal. The GCCS-I3 effort has four mission areas: Administration and Infrastructure Support; Program Manager-Level Configuration Management Processes and Functions; Science and Technology Engineering Support; and, Integration Support Team.

Procurement Profile

This program is funded through Research and Development (R&D) and Operations and Maintenance (O&M) budgets.

Developer/Manufacturer

The Joint GCCS-I3 Program Office defines and validates various operational requirements of the GCCS-I3.

Intelligence Broadcast Receivers



Description

The Joint Tactical Terminal (JTT) and the Embedded National Tactical Receiver (ENTR) are part of the Intelligence Broadcast Receiver (IBR) Family, which receives and processes national- and theater-level, near-real-time intelligence information simultaneously from several sources. These include the Intelligence Broadcast Service (IBS) Simplex (Legacy-TDDS), IBS Interactive (Legacy-TIBS), IBS Line of Sight (Legacy-TRIXS), and Tactical Data Information Exchange Service B (TADIXS B) systems.

Operational Impact

The JTT capability is directly tied to the Congressionally mandated IBS initiative

that will combine the current four legacy intelligence broadcasts into a single broadcast. The IBR Family of Receivers is the sole source that will provide interface to the new IBS broadcast information. When IBS is implemented, legacy terminal systems will not be able to receive IBS data. Access to intelligence information will not be possible without the JTT and ENTR, and other IBR solutions.

Program Status

Approved Acquisition Objective is 235 IBR systems (25 JTTs and 210 ENTRs). JTT procurement of 25 systems is complete. JTT fielding began in fourth quarter FY 2004. Procurement of 210 ENTRs will be fulfilled during FY 2005-2007. Developmental testing for ENTR began during third quarter FY 2004.

Procurement Profile:	FY 05	FY 06
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Quantity (ENTR):	66	35
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Developer/Manufacturer:

JTT: Raytheon C3S Radios/Terminals,
St. Petersburg, FL;

ENTR: L3 Communications, Conic Division,
San Diego, CA

Joint Enhanced Core Communication System

Description

The Joint Enhanced Core Communication System (JECCS) supports a “first in” communications capability in support of a Marine Air-Ground Task Force or other missions in support of Joint, Coalition and Interagency, e.g., State Department, Department of Energy, United Nations, Red Cross, etc., organizations operating with Marine forces. The JECCS is in part a material solution that ties multiple capabilities together into a closely integrated First In Command and Control System (FICCS). The FICCS is comprised of three functional areas, including Transmission, Network Management, and Operational Facility. The JECCS fulfills the network management requirements of FICCS and serves as a hub for the net-centric architecture by providing the following GIG-enabled services:

- Defense Switched Network (DSN);
- Defense RED Switch Network (DRSN);
- Secure Internet Protocol Network (SIPRNET);
- Non-secure Internet Protocol Network (NIPRNET);
- CENTRIXS (Combined Enterprise Regional Information Exchange System);
- Joint Worldwide Intelligence Communications System (JWICS); and,
- DISN Video Services-Global (DVS-G) or Video Teleconference (VTC).

Operational Impact

Current MAGTF communications, at this level, are achieved using the Joint Task Force Enabler suite of equipment. The JECCS will replace this suite with a fully



integrated, sustainable voice and data communications package. By integrating all required initial Command, Control, Communications, Computers, and Intelligence (C4I) connectivity equipment onto a single High Mobility Multipurpose Wheeled Vehicle (HMMWV), JECCS will decrease field setup time, while increasing MAGTF communications capability, flexibility, and mobility.

Program Status

The Program was granted a full rate production decision in March 2004, and has issued a delivery order for the remaining (11) systems. These systems will incorporate Block II upgrades. Full operational capability is scheduled for third quarter FY 2006.

Procurement Profile: FY 05 FY 06

Quantity: 11 3

Developer/Manufacturer:

Prime Contractor: EDO/Darlington, Inc.,
Wando, SC

Joint Network Management System

Description

The Joint Network Management System (JNMS) is a mandated communications planning and network management tool for the combatant commander, Joint Task Force (JTF) commander, and JTF service components. It is used for high-level communications war planning; detailed planning and engineering; network management, monitoring, control and reconfiguration; spectrum planning; and, the management and security of systems and networks supporting joint operations. JNMS is a joint Acquisition Category III program. The Milestone Decision Authority (MDA) is the Program Executive Officer, Command, Control, and Communications, Tactical (PEO C3T). JNMS includes the Marine Corps System Planning Engineering and Evaluation Device (SPEED), as well as COTS software, GOTS software, and Developed software. Both JNMS and SPEED roll up under the Marine Corps Network Planning and Management (NPM) Portfolio in FY 06.

Operational Impact

Personnel manning the Systems Control department within each command component will employ the JNMS. Without JNMS, the Marine Corps will not have the mandated communications tool to plan, manage, and collaborate with the joint community during JTF operations and exercises.

Program Status

JNMS has a Milestone C and Limited Rate Initial Production Decision. A Full Rate Production Decision is planned for first quarter FY 06. Marine Corps commands supporting the first units to be equipped will receive JNMS with their service counterparts.

Procurement Profile:	FY 05	FY 06
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Quantity:	10	11
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Developer/Manufacturer:
Science Applications International Corp.
(SAIC), San Diego, CA

Tactical Exploitation Group

Description

The Tactical Exploitation Group (TEG) is the primary tactical imagery exploitation system in the Marine Corps. The TEG disseminates exploitation reports and secondary imagery products to the Marine Expeditionary Force (MEF) commander and subordinate commanders for tactical operations, strike planning, precision targeting, detection and location of targets of opportunity, and combat damage assessment for re-strike planning and intelligence assessment. The TEG employs commercial off-the-shelf, government off-the-shelf, and non-developmental item computer hardware and software to enable rapid upgrades and maintain commonality and interoperability with other Marine Corps and joint intelligence and imagery systems.

Operational Impact

The TEG provides the capability to receive, process, store, exploit, and disseminate electro-optical (EO) and infrared imagery (IR) from the F/A-18D (RC) Advanced Tactical Airborne Reconnaissance System (ATARS) and synthetic aperture radar (SAR) imagery from the F/A-18D (RC) radar. The TEG can also receive EO, IR, and SAR imagery from theater resources, such as the U-2 Advanced Synthetic Aperture Radar System-2 (ASARS-2) and Global Hawk Unmanned Aerial Vehicle (UAV). The TEG can also receive, store, exploit, and disseminate imagery from theater and national input segments.

Program Status

Two of three TEG-M systems have been delivered (I MEF and II MEF). The third TEG-M (intended for III MEF) is currently in use as the demonstration platform



for a formal Developmental / Operational Test required for Milestone determination. Anticipated delivery of the third TEG-M, anticipated for III MEF is in fourth quarter FY 2005. Marine Corps Systems Command is implementing an Incremental Development Plan (IDP) effort for TEG. These improvements, which began in FY 2002, are grouped as incremental upgrades and will occur on alternate years. Incremental Upgrade 2 development was implemented in FY 2003.

Procurement Profile:

During FY 2005, the Marine Corps will complete TEG formal testing as a precursor to Milestone C, and seek a subsequent Fielding Decision. Migration plans to facilitate the transition of the current TEG capability to net-centric architectures are being finalized.

Developer/Manufacturer:

Prime Hardware Integrator:

Space and Naval Warfare Systems Center, Charleston, SC.

Software Integrator:

Northrop Grumman, Linthicum, MD

Common Data Link:

L3 Communications, Salt Lake City, UT

Joint Tactical Radio System



Description

The Joint Tactical Radio System (JTRS) is a family of joint, multi-channel, multi-mode, reprogrammable radio systems. JTRS provides high-capacity, line-of-sight and beyond-line-of-sight plain and secure voice, data, and video, while operating in frequency bands from 2 MHz to 2 GHz, with extensions planned in the above-2-GHz ranges. The system ensures network connectivity across the radio-frequency spectrum and supports tactical digital information exchanges. JTRS includes the Wideband Networking Waveform (WNW) that supports communication requirements not achievable with today's systems. Ground versions of JTRS will include vehicle, man-portable, and hand-held radios.

Operational Impact

Current radio systems provide insufficient data throughput to support exchange of command-and-control and fire-support data. JTRS will provide a wideband networking waveform to support the communication requirements of the warfighter not achievable today. In addition, JTRS multi-band, multi-mode radios will allow for more flexible employment of forces and exchange of information.

Program Status

JTRS Cluster 1 (ground vehicular radios) and Joint Waveform (Wf) application development entered the System Development

and Demonstration (SDD) phase (Milestone B) after a FY 2002 approval by the Defense Acquisition Executive. The Cluster 1 program was designated as an ACAT ID program. The Joint Wf Development Program approval included permission for the award of development contracts for waveforms and cryptographic algorithms.

JTRS Cluster 2 (JTRS-Enhanced Multi-band Intra-Team Handheld Radio), or MBITR, is the interim JTRS handheld solution. It is being developed as an Engineering Change Proposal to the MBITR program. It will provide a nominal JTRS-compliant capability to the joint warfighter beginning with a production decision during third quarter FY 05.

JTRS Cluster 5 (manpack, handheld, and small form fit radios) entered the SDD phase during second quarter FY 04, being designated an ACAT IC program. Marine requirements are under development for this radio.

(Funded) Procurement Profile:

Cluster 1 LRIP Models	FY05	FY06
	0	0

Developer/Manufacturer

Cluster 1 (ground vehicular/RW)

Prime Contractor: Boeing, Anaheim, CA

Cluster 2

(JTRS-Enhanced MBITR Handheld)

Contractor: Thales Systems, Clarksburg, MD

Cluster 5

(Handheld, Manpack, Small Form Sit)

Prime Contractor: General Dynamics

Decision Systems, Scottsdale, AZ

Marine Air-Ground Task Force Secondary Imagery Dissemination System



Description

Marine Air-Ground Task Force (MAGTF) Secondary Imagery Dissemination System (SIDS), or MSIDS, consists of three sets of outstation equipment and one set of base station equipment. The outstation includes a basic still-photo digital camera with waterproof case, an advanced still-photo digital camera with fixed and telephoto lenses, a night vision intensifier tube, and a rugged handheld computer with data controller hardware/software. The base station consists of a rugged laptop computer with data controller hardware/software and a printer. The equipment that comprises MSIDS is made up entirely of commercial-off-the-shelf (COTS) equipment.

Operational Impact

MSIDS provides the only self-contained, hand-held, ground-prospective imagery capability for MAGTF reconnaissance units. This imagery is essential for mission planning and intelligence. Other MAGTF near-real-time imaging systems,

such as unmanned aerial vehicles (UAVs) and F/A-18 Advanced Tactical Airborne Reconnaissance System (ATARS), only provide overhead imagery and cannot capture the detail and ground perspectives available with MSIDS. In asymmetric threat environments-where targets of interest are often small, highly mobile units, such as terrorists or guerilla groups-it is imperative that the MAGTF be able to identify individuals and structures from the ground level. The required detail is not available from overhead sources. Technology insertions via an increment refresh plan will enable reconnaissance Marines equipped with MSIDS to receive needed technological upgrades in a more timely fashion.

Program Status

The Marine Corps refreshed the entire MSIDS imagery capability during FY 02. The FY 05 refresh will consist of replacing all computers and data controller hardware, and updating the operating software. The FY 06 refresh will consist of replacing current cameras, upgrading the night vision capability, and possibly adding a thermal capability. These efforts are essential to the MSIDS life-cycle support.

Procurement Profile:	FY 05	FY 06
Quantity:		
MSIDS computers	308	0
Personal Data Controllers	308	0
Cameras	0	219
Night Vision/Thermal	0	73

Developer/Manufacturer

Systems Integrator:

Integrity Data Inc. (IDI), Colorado Springs, CO

Tactical Data Network



Description

The Tactical Data Network (TDN) augments the existing Marine Air-Ground Task Force (MAGTF) communications infrastructure by forming the communications backbone for MAGTF tactical data systems and the Defense Messaging System (DMS). The TDN system consists of a network of gateways and servers interconnected with one another and their subscribers via a combination of common-user, long-haul transmission systems, along with local area networks (LANs) and switched telephone systems.

Operational Impact

TDN provides its subscribers with basic data transfer and switching services; access to strategic, supporting establishment, joint, and other-service component tactical data networks; network management capabilities; and, value-added services, such as message handling, directory services, file sharing, and terminal emulation support. It will provide Internet Protocol connectivity for tactical data systems and the DMS. Without TDN, units will only be able to establish ad hoc, non-standard local area

networks. They will be forced to connect into the communications infrastructure by any means available, making it difficult to support them technically and logistically.

Program Status

The Marine Corps has fielded 31 TDN gateway and 462 TDN Data Distribution Systems (DDS). An additional 30 TDN DDS are planned for use at the Marine Corps Communications and Electronics School. TDN Block I is complete.

A Block II modification and upgrade of the TDN Data Distribution System that provides backup and redundancy was fielded in FY 2004. A TDN

Block III modification/upgrade, Information Assurance (IA) integration, and secure wireless LAN is planned for FY 07 and FY 08.

Procurement Profile:	FY 05	FY 06
Quantity:	0*	40

* Upgrades to existing systems in lieu of new procurement.

Developer/Manufacturer:

General Dynamics Communication Systems,
Taunton, MA

Unit Operations Center



Description

The Unit Operations Center (UOC) consists of two elements—the Command Operations Center (COC) and Command Center (CC). The COC provides a centralized facility that hosts command-and-control equipment and spaces for all elements of a Marine Air-Ground Task Force (MAGTF) command element. The COC provides tent, power, air conditioning, cabling, local area network (LAN), processing, and video display systems. The COC will host 18 tactical data systems (TDSs) software. Designed to enable the interaction and flow of information between staff members, the COC is scalable to support command echelons at battalion and above.

Operational Impact

Currently, the Marine Corps operates varied command-and-control equipment suites. The UOC program standardizes these suites and improves system shelter and transportability, digital capabilities, power generation, and integration, thereby, improving MAGTF command and control. Operational capabilities are currently being utilized on the ground in Operation Iraqi Freedom II (OIF-II). Eight UOC systems are currently in the country.

Program Status

The UOC program is currently in the Production and Deployment phase of Milestone C, with a Low-Rate Initial Production decision of 15 systems. The UOC acquisition strategy focuses on the procurement of the funded COC portion of the program, and will follow an evolutionary spiral development approach. Due to changes in priority based on OIF-II needs, fielding was initiated to applicable portions of the Air Combat Element and the Ground Combat Element. Future fielding will include more to both of these elements, as well as the Command Element and the Combat Service Support Element.

An Urgent Universal Need Statement for 32 COCs was submitted by I MEF and has been approved by the MROC. These 32 systems will be deployed in support of OIF efforts. Additionally, the program office has received a procurement decision for 10 Spiral I systems to be procured in FY 05. Five of the Spiral I systems will support an operational assessment at the beginning of FY 06, training, and other program efforts. Five of the Spiral I systems will be fielded to CONUS units to support requirements definition in support of MAGTF Command and Control.

Procurement Profile:	FY 05	FY 06
Quantity:	10	0
Developer/Manufacturer:	General Dynamics, C4 Systems, Scottsdale, AZ	

Lightweight Technical Fire Direction System



Description

The Lightweight Technical Fire Direction System (LWTFDS) provides the artillery firing battery with the capability to automate technical fire direction, while in a degraded or moving status, providing a second check required for safe and accurate fires. Additionally, it increases the responsiveness for special missions, such as “hip shoots” and artillery raids. The LWTFDS automates survey and meteorological functions performed by the artillery community. It utilizes the NATO Artillery Ballistic Kernel (NABK) to compute the technical firing solution for the battery.

Operational Impact

The LWTFDS is the material replacement for the Back-up Computer System (BUCS) originally fielded in the early 1980s. Falling under the cognizance of the Advanced Field Artillery Tactical Data System (AFATDS), the LWTFDS gives the battery the ability to compute data when the AFATDS is not operational. This occurs during movements, raids, and periods of degraded operation. The LWTFDS will also replace the Back-up Computer System



Replacement (BUCS-R), which was an interim device for survey functionality fielded in the late 1990s, until the LWTFDS became available.

Program Status

As part of the AFATDS program, LWTFDS does not have an individual acquisition category or milestone. The LWTFDS will be fielded to all artillery batteries, battalion survey sections, and the Marine Corps artillery training detachment at Fort Sill, OK, starting in FY 2005. Initial versions will provide basic functionality. Follow-on software versions will incorporate interoperability with AFATDS, entry devices, and a Gun Display Unit.

Procurement Profile: FY 05 FY 06

Quantity: 97 0

Developer/Manufacturer:

LWTFDS Software Developer:

Raytheon Systems Company, Fort Wayne, IN

LWTFDS Hardware Developer:

Talla-Tech, Tallahassee, FL

LWTFDS Integrator:

General Dynamics, Taunton, MA

Command and Control Personal Computer

Description

Command and Control Personal Computer (C2PC) is a Windows-based client software application designed for Marine Air-Ground Task Force (MAGTF) tactical data systems. When connected to a network, C2PC exchanges position tactical track data with Unix based Tactical Data Base Management (TDBM) Systems such as Tactical Combat Operations system (TCO), Intelligence Analysis System (IAS), and Global Command and Control System (GCCS) and provides a complete geographically based situational awareness capability, including the capability to display the GCCS Common Operational Picture (COP) data.

Under the Family of Interoperable Operating Pictures initiative, C2PC is designated as the Joint Tactical COP Workstation, and the Marine Corps is the Executive Agent. The Marine Corps is the sole developer for C2PC, providing software upgrades, maintenance, technical support, and lifecycle management.

Operational Impact

C2PC is provides a framework for enhanced systems interoperability and commonality between MAGTF Command, Control, Communications, Computers, Intelligence Surveillance, and Reconnaissance (C4ISR) systems, and serves as an integration mechanism with Joint C4ISR systems of record (SOR) on a common map display. C2PC is a single, ground Blue Force tracking C2 capability between the Marine Corps and the U.S. Army, and provides interoperability in the areas of intelligence, maneuver, logistics, fire support, and targeting between the Marine Corps, other services, and Joint Task Force (JTF) headquarters. C2PC is resident on the following SOR:

Expeditionary Warfighting Vehicle (EFV);
Intelligence Analysis System (IAS)
Family of Systems;
Tactical Combat Operations (TCO);
Joint Warning and Reporting Network (JWARN);
Target Location, Designation and Hand-Off System (TLDHS);
Tactical Remote Sensor System (TRSS);
Tactical Exploitation Group (TEG);
M-DACT; and,
GCCS-J.

C2PC features include a robust TrackPlot, Routes planning, and Overlay Edit capability, as well as the ability to embed ActiveX objects (MS Word, MS PowerPoint, sound files, etc.) into the tactical map display. In a standalone mode (not connected to a network), C2PC operators can produce operational graphics and input track data, and upon reconnection to a networked TDBM, track data will be synchronized. With this electronic connectivity, C2PC becomes a powerful tool for the commander by providing a common tactical picture throughout his command. C2PC is deployed from company level to Marine Expeditionary Force level on various types of hardware within the Marine Corps, and it is deployed by all the other services in various operational and tactical environments to facilitate command and control.

Program Status

The C2PC is an Acquisition Category IV-M program that is post Milestone C.

Procurement Profile: FY 05 FY 06

Quantity: N/A N/A

Developer/Manufacturer:
Northrop Grumman Mission Systems,
San Diego, CA

Intelligence Analysis System Family of Systems



Description

The Intelligence Analysis System (IAS) Family of Systems (FoS) uses a three-tiered approach for receiving, parsing, analyzing, and disseminating fused all-source intelligence data. The first tier, the Marine Expeditionary Force (MEF) IAS, is a mobile system that supports the MEF Command Element. The second tier, the Intelligence Operations Server (IOSv2), is a team portable system designed to support the Intelligence Operations of the Major Subordinate Commands (MSC). The third tier, the Intelligence Operations Work-station (IOW), serves as the intelligence link for the battalion and squadron commands to higher headquarters or as a stand-alone system.

Operational Impact

Fielding of the MEF IAS has provided Marine Air-Ground Task Force (MAGTF) commanders with a mobile, all-source, intelligence data fusion and dissemination capability. The IOSv2 gives the commander at the Major Subordinate Command (MSC), Marine Expeditionary Unit (MEU), regiment, and group commands access to time-sensitive intelligence data that is crucial to the decision making process and the Intelligence Preparation of

the Battlefield (IPB). Without the IOSv2, this ability would be greatly degraded. The IOW is the link to intelligence data for the battalion and squadron level of commands, using client/server technology for a “reach back” capability to higher commands for intelligence information updates. The IOW can also function as a stand-alone workstation and can operate with certain limitations in a disconnected environment.

Program Status

The MEF IAS is currently in the post production/fielding phase of the acquisition process. All systems have been fielded to the operational forces, and receiving Marine Reserve units. The IOW was refreshed in FY 04.

Procurement Profile

The IAS FoS executes periodic hardware and peripheral refreshes as per the PM NMCI/IT refresh schedule. One major software fielding and one service pack is fielded per Fiscal Year.

Developer/Manufacturer:

Hardware components (all three tiers):

Commercial-off-the-shelf (COTS) and non-developmental items (NDI)

Software components (all three tiers):

Various COTS and government-off-the-shelf (GOTS) developers

Key GOTS software developers:

Northrop Grumman, Information Technologies, Philadelphia, PA

Chi Systems, San Diego, CA

Titan Systems Corporation, Virginia Beach, VA

System integration of software to hardware

suite: Space and Naval Warfare System

Command (SPAWAR), Charleston, SC

Joint Surveillance Target Attack Radar System, Common Ground Station

Description

The Joint Surveillance Target Attack Radar System (JSTARS) is a long-range, air-to-ground surveillance system comprised of an airborne element and a ground element. JSTARS data will be sent across the Marine Air-Ground Task Force (MAGTF) Command, Control, Communications, Computers, and Intelligence (C4I) network through existing and evolving tactical data networks. The CGS is also capable of receiving and fusing imagery data from unmanned aerial vehicles (UAVs) directly onto JSTARS data, providing an enhanced collection-processing capability.

The CGS consists of high-end workstations, mission and support vehicle trailers, which are both M1097A2 Heavy-Variant High Mobility Multipurpose Wheeled Vehicles (H-HMMWVs), and two M-1116A3 variant utility trailers. The mission vehicle trailer will be mounted with a 10-kw Mobile Electric Power (MEP) 803A generator, a single switch box, and ancillary equipment. The support vehicle trailer will carry additional ancillary equipment. The mission vehicle H-HMMWV is mounted with a shelter of the same form, fit, and function as the Lightweight Multipurpose Shelter (LMS) that houses the mission-essential equipment. The CGS is self-contained and provides storage and transportability of all mission equipment, support equipment, and six crew members. The Joint Services Workstation (JSWS) is a transit case system, containing the same hardware and software as the CGS, except for the communication hardware (but does have an organic Joint Tactical Terminal (JTT)) and SCDL. When it has the associated communication

hardware and/or SCDL it performs in the same manner as the CGS.

Operational Impact

The JSTARS CGS provides the supported commander, afloat and ashore, with near-real-time (NRT) access to MTI, FTI, and SAR data from the JSTARS collection platform. MTI, FTI, and SAR data will be accessible at all echelons of command within the MAGTF. The JSTARS CGS is a MEF-level asset, which is deployed as part of the MAGTF G-2 and operated by Marines from the Intelligence Battalion, providing the MAGTF commander with a detailed image of the battlefield.

Program Status

The JSTARS is currently in a post-Milestone C. The Marine Corps currently possesses three JSTARS CGSs and five JSWSs.

The program is currently conducting two levels of efforts: the maintenance and upgrade of the current JSTARS CGSs and JSWSs, and the research and development of future MTI collection capabilities.

Procurement Profile:	FY 05	FY 06
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Quantity:	0	0
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Developer/Manufacturer:

Prime Hardware Integrator:

General Dynamics Command,
Control, Communications and Computers (C4)
Systems (GDC4S), Scottsdale, AZ

Software Integrators:

GDC4S, Scottsdale, AZ; Harris Systems,
Melbourne, FL

SCDL: Cubic Defense Systems, San Diego, CA

Tactical Combat Operations System



Description

The Tactical Combat Operations (TCO) System is comprised of Marine Air-Ground Task Force (MAGTF) Software Baseline, or MSBL, hosted on a suite of tactical computer hardware, which is built around a computer Intelligence Operations Server v.1 (IOS v.1) and computer Intelligence Operations Workstations (IOWs). TCO uses commercial-off-the-shelf (COTS) servers and workstations to provide commanders the automation to receive, fuse, select, and display information from many sources, and disseminate selected information throughout the battlefield.

Operational Impact

TCO is the principle tool within the MAGTF for situational awareness through the distribution of a Common Tactical Picture. It is also the point of entry for the Common Operational Picture (COP), which is input from the Global Command

and Control System (GCCS). The TCO System is used to display maps and friendly/enemy unit locations, and to develop, display, and transmit overlays and plans of intended movement and maneuver. TCO attributes include:

automated message processing, mission planning, development and dissemination of operational orders and overlays, display of current friendly and enemy situations, display of tactical control measures, and interface with local and wide area networks. TCO is located in the MAGTF Combat Operation Centers from the Marine Expeditionary Force through battalion level.

Program Status

The TCO project office completed a refresh cycle for the tactical IOW in FY 04, distributing 525 IOW commercial laptops (IBM model T40p) throughout the operating forces and designated supporting establishments. In FY 05, the TCO project office will begin fielding the new IOS v.1 Sun Netra 240 servers, which were procured during fourth quarter FY 04.

Procurement Profile:	FY 05	FY 06
Quantity: IOS v.1	0	0
IOW	0	0

Developer/Manufacturer

IOS v.1: Sun Microsystems, Santa Clara, CA

IOW: IBM

Tactical Remote Sensor Systems-Product Improvement Program

Description

Tactical Remote Sensor Systems (TRSS) provide all-weather remote monitoring of activity within and near a given objective area. The TRSS-Product Improvement Program (PIP) is an incremental upgrade to selected portions of these systems. The TRSS-PIP will use state-of-the-art seismic, infrared, magnetic, acoustic, and imaging sensors to autonomously classify, identify, and report threat activity, which is active in their detection range according to operator selectable reporting criteria. Major components of the TRSS-PIP are Unattended Ground Miniaturized Sensors (UGMS) that are hand-emplaced, and Advanced Air-Delivered Sensors (AADS) that are fixed-wing emplaced. These systems will upgrade the current fielded baseline and provide a Corps-wide capability for unattended ground surveillance that can be tailored to the operational requirement. TRSS is employed by the Marine Corps' Ground Sensor Platoons (GSPs).

Operational Impact

Initiated in 1991, TRSS replaced the Vietnam-era REMBASS system with

upgraded electronics, sensors, and relays, which were reduced in weight and size, and monitoring devices that give the GSP extra capabilities without changing its operational profile.

Program Status

TRSS achieved initial operational capability in 1992 and is currently 100 percent fielded.

Procurement Profile:	FY 05	FY 06
Quantity:		
Thermal Imagers	155	37
Electro-optical Imagers	155	37
Target		
Recognition Sensors	68	350
Advanced Air		
Delivered Sensors	80	145
Satellite		
Communications Modules	100	0

Developer/Manufacturer

NOVA Engineering, Inc., Cincinnati, OH
Textron Systems, Wilmington, MA
Ocean Systems Engineering Corporation (OSEC), Carlsbad, CA

MAJOR ACQUISITION PROGRAMS
Ground Combat Element Programs
Part 2



M249 Squad Automatic Weapon

Description

The M249 Squad Automatic Weapon (SAW) program seeks to replace the current inventory of SAWs with new, upgraded ones. The SAW was fielded in 1985 and replaced the M16A1 rifle as the automatic rifle in the Marine fire team and rifle squad. It remains a critical source of firepower for Marine Corps units executing ground combat missions.

Operational Impact

Acquisition of the SAW, a true light-weight machinegun, significantly increased the firepower of the basic Marine Corps ground combat unit, the four-Marine fire team. The service life of the currently fielded SAW has been exceeded. If this inventory is not replaced, tangible combat power of Marine ground units will degrade, which will directly affect the Marine Corps' ability to meet both operational and maintenance readiness. Modifications to the original design incorporate years of field experience, ensuring that this acquisition adds technological advances in addition to



reliability improvements for Marines executing ground combat missions.

Program Status

The Marine Corps is working with the U.S. Army within an existing SAW procurement contract.

Procurement Profile: FY 05 FY 06

Quantity: 447 478

Developer/Manufacturer

FN Manufacturing, Inc., Columbia, SC

Modular Weapon System



Description

The Modular Weapon System (MWS) consists of an M16A4 rifle and an M4 carbine version, which are modified M16A2 service rifles. An M1913 Rail Adapter System (RAS) replaces the upper hand guards and incorporates a removable rear-carrying handle. The rail adapter system and modified hand guards allow for the mounting of various accessories, such as a modified M203 launching system, high intensity flashlights, and infrared (IR) laser target designators, as well as optics. The MWS M4 carbine variant will be selectively fielded to Marines requiring shorter carbine versions of the MWS.

Operational Impact

Use of the MWS will result in a significant improvement in the ability to mount various accessories and will improve the accuracy, target detection, day and night engagement capabilities, and the maintainability of the M16 family of rifles.

Program Status

Fielding of the MWS began in FY 2003 and continues through FY 2007, for a total of 59,479 M16A4 and 10,407 M4 weapons.

Procurement Profile:	FY 05	FY 06
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Quantity:	9,050	13,384
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Developer/Manufacturer

Colt Manufacturing Company, Inc.,
Hartford, CT
Fabrique National Military Industries,
Columbia, SC

Safety Boats

Description

This program will provide a watercraft from which personnel can monitor small craft training. The craft will possess integrated communication and navigational systems to provide its crew the necessary situational awareness to respond to and aid disabled craft and injured personnel. The craft provides easy access from the water to its deck for combat-laden casualties. It also has sufficient deck space for the treatment of casualties during transport, or for the surge transport of passengers in the event a raid craft becomes disabled. Its 30-plus-knot speed also permits the rapid evacuation of casualties that have sustained life-threatening injuries.

Operational Impact

Reconnaissance units and infantry boat companies are required to focus on training of an amphibious nature. A safety boat and crew must be present when these units are

conducting various combinations of small boat training, surface swims, and combatant diving, to properly supervise the safety of this training or to expeditiously MedEvac an injured Marine or diver to a medical facility. Historically, when the craft used for the safety boat mission have not been large or fast enough, units often purchased non-standard boats to meet their requirements. The Raid/Open Water Safety Boat will be provided to every reconnaissance unit.

Program Status

The Marine Corps purchased three concept evaluation boats in FY 2002. Procurement funding for the crafts has been deferred to FY 2006. Initial operational capability is planned for FY 2006, with full operational capability a year later.

Procurement Profile:	FY 05	FY 06
Quantity:	0	24
Developer/Manufacturer:	TBD	

Marine Corps Sniper Systems

Description

Marine Corps Sniper Systems consist of three primary weapon systems: the M40A3 Sniper Rifle, the Designated Marksman Rifle (DMR), and the M82A3 Special Application Scoped Rifle (SASR). The M40A3 is a bolt-action, extended range, anti-personnel weapon used for precision engagement of enemy targets out to 1,000 yards. The DMR is a semi-automatic precision anti-personnel weapon designed primarily for security and anti-terrorism missions. The SASR is a semi-automatic, extended range, anti-material weapon designed to fire a variety of .50 caliber ammunition at enemy targets up to 1,600 meters.

Operational Impact

Marine Corps Sniper Systems allow Marine snipers and other designated marksman to engage enemy targets with precision direct fires at a variety of ranges in a variety of battlefield environments and scenarios.



Program Status

All weapon systems are currently fielded. Additional quantities of each system will potentially be procured if the Marine Corps end-strength is increased and new infantry units are added.

Procurement Profile:

Quantity: N/A

Developer/Manufacturer

M40A3 and DMR: Weapons Training Battalion, Precision Weapons Facility, Quantico, VA

SASR: Barrett Firearms, Murfreesboro, TN

Thermal Weapon Sight

Description

The Thermal Weapon Sight (TWS) is a lightweight, low-power, high-performance, forward-looking infrared device that will augment existing crew-served night vision sights. TWS does not rely on visible light for operation and is virtually unaffected by weather and obscurants (both natural and manmade). The TWS operates by discerning the temperature variation between targets and their background. It is completely passive and, although designed for target detection and engagement with Marine Corps crew-served weapons, can be used for all-weather surveillance.



Operational Impact

The 24-hour capability of the TWS significantly enhances the Marine Corps day- and night-fighting capability through improved target detection and engagement. The system can “see” through obscurants (such as sand, dust, or fog) that impair

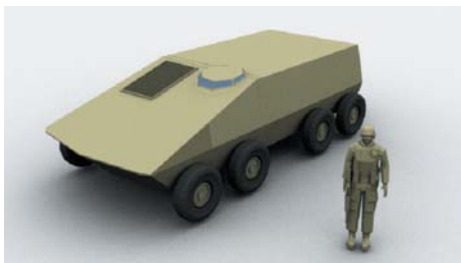
sighting systems operating in the visible and near-visible spectrum. The TWS has the ability to acquire targets under most atmospheric conditions at ranges, which are comparable to the maximum effective ranges of the weapon system with which it is employed.

Program Status

The U.S. Army—the lead service for the TWS program—and the Marine Corps successfully completed separate operational test and evaluations in 2000 and 2001, which led to a procurement decision in July 2001. The Marine Corps will exercise an option on the Omnibus contract and procure 3,542 medium TWSs, or MTWSs, and 1,793 heavy TWS, or HTWSs. As of May 2004, 2,123 MTWSs have been fielded to meet Fleet Marine Force (FMF) requirements.

Procurement Profile:	FY 05	FY 06
Quantity:	900	1,000
Developer/Manufacturer:	Raytheon Systems Company, Dallas, TX	

MAGTF Expeditionary Family of Fighting Vehicles



Description

The Marine Air-Ground Task Force (MAGTF) Expeditionary Family of Fighting Vehicles, or MEFFV, is an acquisition initiative designed to support joint operations via Expeditionary Maneuver Warfare (EMW). Currently envisioned as a replacement for the capabilities provided by the Marine Corps' Family of Light Armor Vehicles (LAVs) and M1A1 main battle tanks in the 2015-2020 timeframe, the Marine Corps is also evaluating potential capability opportunities achievable through network centricity similar to that being pursued for the Army's Future Combat System (FCS).

Operational Impact

The primary goal for developing MEFFV is to facilitate EMW capability enhancements for MAGTFs in the next decade and beyond. Consideration for such capability enhancements shall include increasing the operational reach and tactical flexibility of MAGTFs, and increasing the MAGTFs' ability to support and sustain

the Ground Combat Element (GCE) through lower vehicular weights, high component commonality, and high fuel efficiency. Vehicle design and configuration will be specifically driven to be compatible with Seabasing principles. The MEFFV system shall be compatible with joint and multi-national command-and-control architectures.

Program Status

The MAGTF Expeditionary Family of Fighting Vehicles is currently engaged in pre-Phase A (pre-Milestone A) activities. The Joint Requirements Oversight Council (JROC) has assigned a Joint Potential Designator of "Joint" for FCS and recommended formation of a joint Army/Marine Corps Program Office. The Marine Corps is working with the Army to develop a joint program plan for FCS and MEFFV in order to respond to the JROC and Defense Acquisition Board (DAB) directive. The intent of the joint program plan is to meet both services' material requirements for future combat systems, reduce life cycle cost of these systems, and enhance interoperability between the services. Near-term funding supports Concept Refinement activities for this family of vehicles. Estimated time period for initial fielding of MEFFV systems is FY 2015-2018.

Procurement Profile:	FY 05	FY 06
Quantity:	0	0
Developer/Manufacturer:	TBD	

Expeditionary Fighting Vehicle



Description

The Expeditionary Fighting Vehicle (EFV) will be the primary means of tactical mobility for the Marine rifle squad during the conduct of amphibious operations ashore. The EFV is a self-deploying, high-water speed, armored amphibious vehicle capable of transporting Marines from ships located beyond the horizon to inland objectives. The EFV will have the speed and maneuvering capabilities to operate with main battle tanks on land. In addition, the vehicles can use bodies of water, such as oceans, lakes, and rivers, as avenues of approach and maneuver. The EFV is an armored, fully tracked infantry combat vehicle that will be operated and maintained by a crew of three Marines, and have a troop capacity of 17 Marines with their individual combat equipment. The EFV replaces the Assault Amphibious Vehicle (AAV7A1) that was fielded in 1972 and will be more than 35 years old when the EFV is fielded.

Operational Impact

The EFV will provide the Marine Corps with increased operational tempo, survivability and lethality throughout the battle area and across the spectrum of operations. The EFV enables the Navy and Marine Corps team to project power from the sea base in a manner that will exploit interven-

ing sea and land terrain, achieve surprise, avoid enemy strengths, and generate never-before-realized operational tempo across war-fighting functions.

Program Status

The EFV program is in the Systems Development and Demonstration (SDD) Phase of the acquisition process. During this phase, the program completes the design of the second generation SDD prototypes, and validates the manufacturing and production processes, as well as fabricates and tests the nine SDD prototypes, fabricates the live-fire test vehicle, and finalizes and implements the life cycle management concept. The Low Rate Initial Production decision (Milestone C) is currently scheduled for September 2006. The current acquisition objective is to produce 1,013 EFVs, with the Initial Operational Capability scheduled for 2010 and full operational capability scheduled for 2020.

Eight of the second-generation prototypes, including six EFVP1 (personnel variant) and one EFVC1 (command and control variant), have been undergoing developmental testing in preparation for the Milestone C Operational Assessment planned for 2006. The Joint Services Manufacturing Center in Lima, OH, has been chosen as the production and assembly site for the EFV.

Procurement Profile:

Low Rate Initial Production is scheduled to begin FY 2007 with Full Rate Production to begin FY 2011.

Developer/Manufacturer:

General Dynamics Amphibious Systems, Woodbridge, VA

M1A1 Firepower Enhancement Program



Description

The Firepower Enhancement Program (FEP) is a suite of upgrades for the Marine Corps' M1A1 main battle tank. It will include, at a minimum, a second-generation thermal sight and a far-target location (FTL) capability. The advanced thermal sight consists of infrared optics, an infrared focal plane array, associated analog and digital electronics, display, brackets, and cables. The FTL system consists of a North Finding Module (NFM), bracket, cables, and inputs from the existing laser rangefinder and Precision Lightweight Global Positioning System Receiver (PLGR). The FTL system is a new capability for the Marine Corps M1A1 tank and will provide the tank crew with accurate target location (less than 50 meters Circular Error Probability (CEP) out to 8,000 meters) within two seconds after lasing the target. The FTL solution is determined by utilizing the inputs of the laser rangefinder, PLGR, and NFM.

Operational Impact

As part of a Marine Air-Ground Task Force (MAGTF), the M1A1 provides maneuver and armor-protected firepower to the Ground Combat Element. As the mobility and survivability of threat systems improve, the M1A1 must increase the speed and accuracy with which it acquires and engages targets. The M1A1 FEP will provide thermal imaging and FTL capability that will overmatch threat sensor performance, thereby improving the ability of Marine Corps tank crews to engage and defeat an enemy at extended ranges. The M1A1 FEP will provide for increased target detection, recognition, identification, and FTL capabilities during day and night operations, through smoke, fog, or other battlefield obscuration.

Program Status

The Commanding General, Marine Corps Systems Command, approved the program for entry into Milestone C.

Procurement Profile: FY 05 FY 06

Quantity: 4 148

Developer/Manufacturer:
Raytheon Company, McKinney, Texas

Assault Amphibious Vehicle Reliability, Availability, Maintainability/Rebuild to Standard Program



Description

The Assault Amphibious Vehicle (AAV) Reliability, Availability, Maintainability/Rebuild to Standard (RAM/RS) acquisition program improves the Marine Corps’ ability to logistically support the AAV Family of Vehicles (AAV FOV). The program replaces the AAV’s suspension system with one derived from the U.S. Army’s Bradley Fighting Vehicle. A 525-horsepower Cummins V903 engine, also derived from the Bradley, replaces the current 400-horsepower engine. The HS-400 transmission is rebuilt with modifications, including a new torque converter, to change it to the HS-525 configuration. The remainder of the vehicle is rebuilt to original specifications.

Operational Impact

The AAV RAM/RS improves the reliability and supportability of the AAV FOV, while also improving Marine Air-Ground Task Force (MAGTF) mobility and survivability. This will ensure the viability of the AAV until the full fielding of the Expeditionary Fighting Vehicle (EFV) in FY 2020.

Program Status

RAM/RS production started in FY 1999 and program completion is projected for FY 2006. A total of 1,007 vehicles will be rebuilt (887 P-variants, 73 C-variants, and 47 R-variants).

Procurement Profile:	FY 05	FY 06
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Quantity:	100	13
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Developer/Manufacturer:

Hull Modification: United Defense, L.P.,
Marine Corps Systems Division, Albany, GA

Engines: Cummins Inc., Columbus, IN

**Vehicle disassembly, component rebuild,
vehicle assembly:** Marine Corps Logistics
Base, Albany, GA

Assault Amphibious Vehicle Family of Vehicles, Modification Kit Program

Description

The Assault Amphibious Vehicle (AAV) Modification Kit Program provides life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through continuous review of sub-systems to maintain system supportability, safety, reduce total ownership costs, and improve fleet readiness. The Modification Kit Program, also know as the Mod Kit Line, primarily supports engineering change proposal work, and the development and fielding of the Enhanced Appliqué Armor Kit (EAAK).

Operational Impact

The AAV Modification Kit Program for the AAV FOV—Reliability, Availability, Maintainability/Rebuild to Standard (RAM/RS) and non-RAM/RS—allows these vehicles to continue to support Marine Air-Ground Task Force operations. Changes include safety upgrades; the replacement of obsolete or no longer available subsystems or components; reliability/maintainability upgrades that reduce total ownership cost; integration of needed Command, Control, Communications, Computers, and Intelligence (C4I) systems; and, interoperability improvements.

Program Status

The Mod Kit Line will ensure EAAK is available for all fielded AAVs via a reprocurement effort with kits fielded FY 2004 through FY 2006 and sustainment quantities fielded through FY 2007. Lessons learned during Operation Iraqi Freedom (OIF) and OIF-II have led to many minor safety and survivability changes, which began fielding in FY 04 and will continue through FY 06. Current system improvements include Cargo Hatch Hinge Replacement, M-2 Machine Gun Cradle Modification, and fuel system modification. Future modifications will include the integration of C4I systems as required, integration of a thermal sight, and incorporation of reliability, maintainability and safety improvements.

Procurement Profile:	FY 05	FY 06	
Quantity:	EAAK	25	75
Engineering Change			
Proposal (ECPs)			
Modifications		Various	Various
Developer/Manufacturer			
EAAK Kits: Rafael, Ltd., Haifa, Israel			
Engineering Support: United Defense, L.P., Triangle, VA			

Assault Breacher Vehicle



Description

The Assault Breacher Vehicle (ABV) is a tracked, armored, engineer vehicle specifically designed for conducting in-stride breaching of minefields and complex obstacles. The ABV will provide crew protection and vehicle survivability, while having the speed and mobility to keep pace with the maneuver force.

Major components of this system include a Full-Width Mine Plow (FWMP), dozer blade, two linear demolition charges (LDC), a lane-marking system, a remote control system, and weapons station integrated on a modified M1A1 tank chassis. ABV will fill the requirement to clear a lane of sufficient width and depth for the assault forces, and will be operated by a two-man crew or with an optional remote control system.

Operational Impact

The ABV will improve the mobility and survivability of Marine Air-Ground Task Forces. The ABV will provide a deliberate assault breaching capability through minefields and complex obstacles. It will allow assault units to move rapidly through obstacles before threat forces have the full opportunity to mass fires or establish defenses.

Program Status

Marine Corps Systems Command granted Milestone B in July 2003 and authorization to build three Production Representative Prototypes, in order to conduct additional developmental tests and Initial Operational Testing and Evaluation. Milestone C will take place in FY 2005. Initial operational capability is scheduled during FY 2006, and full operational capability is scheduled for FY 2007.

Procurement Profile:	FY 05	FY 06
Quantity:	4	18
	(LRIPVariants)	

Developer/Manufacturer:
Three Production Representative Prototype
ABVs: Anniston Army Depot, Anniston, AL

Internally Transportable Vehicle



Description

The Internally Transportable Vehicle (ITV) will be a highly mobile weapons-capable light strike platform that can support a variety of operations. It will provide MAGTF ground combat units with a vehicle that is internally transportable in CH-53 and MV-22 aircraft. It also will provide reconnaissance units equal or greater mobility than the Marine Air-Ground Task Force MAGTF maneuver elements they support, thereby enhancing their mission performance and survivability. This is a joint program with U. S. Special Operations Command; the Marine Corps is the lead service.

Operational Impact

The ITV will play a key role in Ship To Objective Maneuver, allowing MAGTF commanders to take maximum advantage of the speed and range offered by the MV-22 and CH-53 by deploying ground units equipped with highly mobile light-strike vehicles armed with heavy or medium machine guns. The Interim Fast Attack Vehicle is currently fielded and is deployable inside the CH-53 aircraft, but the GCE currently has no ground mobility platform that can deploy inside the MV-22.

Program Status

The ITV Program is in the System Development and Demonstration Phase. A Request For Proposals was published in February 2004, with a contract awarded to General Dynamics Ordnance and Tactical Systems in November 2004. Initial operational capability is scheduled for January 2007, when one infantry battalion receives eight ITVs.

Procurement Profile:	FY 05	FY 06
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Quantity (Prototypes):	4	8
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Developer/Manufacturer:
American Growler, Ocala, FL

Lightweight 155mm Howitzer



Description

The Lightweight 155mm Howitzer (LW155) is the world’s first 155mm towed howitzer with a flyweight of less than 9,800 pounds (with digital fire control). It offers greater ground mobility and improved reaction times compared to the M198 howitzer, which weighs nearly 16, 000-lb. M198, that it is designed to replace.

Operational Impact

The LW155 towed howitzer system—defined as the howitzer, its prime mover, and associated equipmentwill meet the increased operational demands in the areas of lethality, survivability, mobility, deployability, and sustainability required to support maneuver warfare. The system’s operational tempo will increase over that of previous systems, ensuring that greater firepower is available while vulnerability is reduced.

Program Status

The Assistant Secretary of the Navy for Research, Development, and Acquisition approved the program for low-rate initial production in November 2002. The program is currently producing a total of 94 systems, with initial deliveries supporting production qualification and first-article testing, both of which are currently under-way. Successful completion of these tests, along with the joint operational testing with the Army in late 2004, will support a full-rate production decision in early 2005 for a total of 356 Marine Corps systems and 233 Army systems. In parallel, the detailed design of the Army-funded digital fire control system (DFCS) has been successfully completed, and that program has been merged with the M777 to support a combined operational test and a combined full-rate production decision. The DFCS will be retrofitted to all Marine Corps howitzers initially fielded with glass and iron sights, and it will support joint/Army multi-year procurement of the DFCS-equipped weapon (M777A1) for the balance of production in FY 2005-2007.

Procurement Profile: FY 05 FY 06

Quantity: 107 78

Developer/Manufacturer:

Prime Contractor:

BAE Systems, Barrow in Furness, UK

Sub-Contractors:

General Dynamics, ATP, Burlington, VT

Wegmann, USA, Lynchburg, VA

Hydro-Mill, Chatsworth, CA

High Mobility Artillery Rocket System



Description

The High Mobility Artillery Rocket System (HIMARS) is a C-130-transportable, wheeled, indirect-fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System Family of Munitions (MFOM). The HIMARS launcher consists of a fire control system, carrier (automotive platform), and launcher-loader module that will perform all operations necessary to complete a fire mission. The system is defined as one launcher, two re-supply vehicles, two re-supply trailers, and a basic load of nine pods (six rockets per pod) of MFOM rockets

Operational Impact

HIMARS addresses an identified, critical warfighting deficiency in Marine Corps fire support. The system will provide responsive, all-weather, 24-hour general support, general support reinforcing, and reinforcing indirect fires, and will extend the range of artillery support provided to Marines in combat from 30 to 60 kilometers. HIMARS will be fielded to two battalions (one active and one Reserve).

Program Status

HIMARS entered post-Milestone C in November 2003. Marine Corps Systems Command anticipates providing a battery-sized interim capability in FY 2005. Full rate production begins in FY 2006, with initial operational capability achieved in FY 2008 and full operational capability achieved in FY 2009.

Procurement Profile:	FY 05	FY 06
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Quantity:	1	15
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Developer/Manufacturer:

Launcher and MFOM: Lockheed Martin Corp.,
Missiles & Fire Control Div., Dallas, TX

Re-supply System: Oshkosh Truck
Corporation, Oshkosh, WI

Expeditionary Fire Support System

Description

The Expeditionary Fire Support System (EFSS) will be the third and final system of a land-based fire support triad that includes the Lightweight 155mm Howitzer (LW155) and High Mobility Artillery Rocket System (HIMARS). Accompanying Marine Air-Ground Task Forces (MAGTFs) in all types of expeditionary operations, EFSS will be the primary indirect fire support system for the vertical assault element of the ship-to-objective maneuver force. As such, EFSS launcher, mobility platform, a portion of the basic load of ammunition, and a portion of its crew will be internally transportable by a single CH-53E helicopter and/or a single MV-22 tilt-rotor aircraft, and will possess the greatest possible range and flexibility of employment for Operational Maneuver from the Sea (OMFTS).

Operational Impact

EFSS will expand the maneuver commander's spectrum of fire support options and be capable of successfully engaging a

spectrum of potential point and area targets, including motorized, light armored, and dismounted personnel targets, command and control systems, and indirect fire systems. EFSS will afford the MAGTF commander increased flexibility in tailoring his fire support systems to support the scheme of maneuver. EFSS-equipped units will be especially well-suited for missions requiring speed, tactical agility, and vertical transportability. The EFSS design and configuration will ensure that its tactical mobility, both in the air and on the ground, is equal to the supported force.

Program Status

EFSS achieved a Milestone B in 2004.

Procurement Profile:	FY 05	FY 06
Quantity:	0	6
Developer/Manufacturer:	General Dynamics	

Conventional Ground Ammunition

Description

Class V(W) Conventional Ground Ammunition consists of more than 300 individual ammunition and explosives items currently found in the Marine Corps ammunition stockpile. These items support all major weapons systems employed by the Marine Corps to include artillery, tank, small arms (such as 9mm, 5.56mm, 7.62mm, and .50-caliber), non-lethal, rockets, missiles, medium caliber (25mm and 40mm), mine clearance systems, and the family of mortar ammunition. Conventional ground ammunition also includes individually employed and hand-emplaced material, such as grenades, demolition equipment, pyrotechnics, and signaling devices. Also included are training- and mission-unique items, such as non-lethal, Special Effects Ammunition Markings System (SESAMS), and Military Working Dog Scent Kits.

Operational Impact

With the continuing global missions facing the United States, it is imperative that the Marine Corps maintains a healthy procurement profile to address the growing demands of the Marine forces for both war-reserve and live-fire training. Past efforts within the Procurement Ammunition, Navy and Marine Corps (PAN&MC) appropriation have postured the Marine Corps to maintain readiness levels, and meet the current demands for ammunition and explosives required for success on the battlefield.

Program Status

While not fully funded across all POM06 categories, it is expected that our

ammunition processes and the funding profile will continue, ultimately ensuring that sufficient ammunition is available for future combat or peacekeeping operations involving active-duty and Reserve Marine forces.

Procurement Profile: FY 05 FY 06

Quantity:

Mortar family:	63,550	48,358
Tank family:	11,971	0
Artillery:	371,754	157,414
Rocket family:	12,055	0
Small Arms family:	FY 05: 181,835,394	FY 06: 190,474,647

Developer/Manufacturer

Various government and commercial manufacturing facilities, including the following representative sample:

Mortar Family:

American Ordnance, Milan, TN;
Medico, Wilkes-Barre, PA;
L3 Communications, Lancaster, PA;
HITECH, East Camden, AR;
Wilkinson Manufacturing, Port Calhoun, NE;
and, Armtec Defense Products, Coachella, CA.

Artillery Ammunition:

Chamberlain Manufacturing, Scranton, PA;
and, American Ordnance, Middleton, IA

Tank Ammunition:

Alliant Tech Systems, Plymouth, MN; and,
American Ordnance, Middleton, IA.

Rockets:

Talley Defense Systems, Mesa, AZ; and,
SAAB Bofors Dynamics, Karlskoga, Sweden

Small Arms Family:

Alliant Tech Systems, Independence, MO; and,
General Dynamics Ordnance Systems, Marion, IL

Advanced Field Artillery Tactical Data System



Description

The Advanced Field Artillery Tactical Data System (AFATDS) is an automated fire support command-and-control (C2) system. AFATDS automates the fire planning, tactical fire direction, and fire support coordination required to support maneuver from the sea and subsequent operations ashore.

Operational Impact

AFATDS is the primary fire support coordination system employed from the Marine Expeditionary Force (MEF) down to battery level operations. The system provides commanders with the ability to rapidly

employ all fire support assets at their disposal, allowing them the flexibility to determine what weapon systems to employ in specific situations. AFATDS greatly enhances the interchange of tactical data between all Marine Air-Ground Task Force (MAGTF) tactical command-and-control systems through the use of graphics, common operating applications, and communications.

Program Status

AFATDS achieved Full Operational Capability (FOC) in second quarter FY 03. The program began its first hardware refresh in FY 05. Current software version is AFATDS 6.3.2. Follow-on software development will continue throughout the system's lifecycle.

Procurement Profile:	FY 05	FY 06
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Quantity:	391	0
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Developer/Manufacturer

Software Developer:

Raytheon Systems Company, Fort Wayne, IN

Hardware Integrator:

General Dynamics, Taunton, MA

Improved Position and Azimuth Determining System

Description

The M111 Improved Position and Azimuth Determining System (IPADS) is a High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted, inertial navigation surveying system, which will be used by artillery survey parties as a secure, all-weather, day-night means for rapidly extending survey control to satisfy the demands of mobile weapons systems. IPADS, which does not rely on Global Positioning System (GPS), accurately aligns GPS-aided, self-locating firing elements on a common survey grid, enabling these firing elements to mass fires. IPADS will provide a highly mobile and accurate means of performing artillery survey. IPADS will determine location coordinates, altitude in meters, direction in millimeters, and will be capable of rapid and accurate self-alignment utilizing ring-laser gyros and accelerometers. The IPADS will replace the currently fielded AN/USQ-70 Position and Azimuth Determining System (PADS) in all Marine Corps artillery units.

Operational Impact

IPADS supports modernization of field artillery survey capabilities by replacing the obsolescent PADS that was fielded in the 1980s. The availability of PADS hardware and components is becoming increasingly problematic and will likely be unavailable as early as the FY 05-FY 06 timeframe.

Program Status

IPADS is an Army-led, joint-interest program. IPADS is in the post-Milestone C phase. Operational testing was completed in the second quarter FY 04. The Marine Corps IPADS schedule requires a procurement decision during second quarter FY 05.

Procurement Profile:	FY 05	FY 06
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Quantity:	50	5
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Developer/Manufacturer:
L3 Communications, Budd Lake, NJ

Small Unit Remote Scouting System



Description

The Small Unit Remote Scouting System (SURSS) is a family of low cost (reusable and expendable) sensor systems providing organic situational awareness directly to the small unit maneuver and support commanders. The SURSS family of sensors will have an aerial, hand-emplaced and munitions delivered component. The aerial component is the only funded element of the program. The Dragon Eye (DE) Unmanned Aerial Vehicle (UAV) is the materiel solution for the aerial component. (The hand-emplaced and munition delivered initiatives will compete in the FY 08 POM.) Dragon Eye is typically employed at the battalion level and below to provide “over-the-hill” day and night reconnaissance. These UAVs can be quickly assembled and launched in about 10 minutes. The UAV operates autonomously (without operator input) after launch and transmits video imagery of the tactical situation, in near-real time, at a range of up to 10 kilometers (line of sight). The UAV’s route of flight is typically pre-programmed on the ground, but the route can be changed in-flight by the operator. Dragon Eye weighs 6 lbs., has a 45” wingspan, and is powered by two battery-operated motors that achieve speeds of approximately 35

mph at altitudes of 300 to 500 feet above the ground. The vehicle, which is bungee-launched by two Marines, flies its route using Global Positioning Satellite data for navigation. The system is man-portable, and can be recovered and reused.

Operational Impact

The mission of the SURSS is to provide day/night reconnaissance/surveillance of tactical objectives and danger areas beyond the unit’s line of sight, and relay this information in near-real time directly to the supported unit. Dragon Eye is also used in the urban environment, providing information that a battalion could previously gather only by patrolling or outpost activities, thus saving Marine lives and resources.

Ten pre-production prototypes were used by I MEF during Operation Iraqi Freedom (OIF) I. In response to feedback from the operating forces, 35 systems (105 UAVs) were sent to I MEF for OIF II. Due to limited resources (and survivability as a primary concern), DE was most often employed as a battalion asset. DE was operated almost entirely from stationary positions and proved most effective for route and point reconnaissance, and patrol and checkpoint support in urban areas.

Program Status

The program is in the Production and Deployment Phase. Initial operational capability was achieved in Iraq in May 2004. The acquisition objective is 467 systems.

Procurement Profile: FY 05 FY 06

Quantity: 40 83

Developer/Manufacturer

Production Contractor:

AeroVironment, Inc., Monrovia, CA

Company and Battalion Mortars Program



Description:

Company and Battalion Mortars Program provides responsive, all-weather, organic, indirect fire support to commanders in Marine infantry battalions in support of offensive and defensive operations and maneuver on the battlefield. Presently, the company mortar role is filled by the M224 60mm mortar, and the battalion role is filled by the M252 81mm mortar. The Company and Battalion Mortars Program

initiative is submitted to retain an organic indirect fire capability at the battalion and company level, while seeking to improve weight, range, lethality, durability, and fire control capabilities.

Operational Impact

The Company and Battalion Mortars Program will provide responsive, all-weather, 24-hour indirect fires for maneuver units.

Program Status

Company and Battalion Mortars is in pre-milestone B.

Procurement Profile:

Quantity: N/A

Developer/Manufacturer:

Present systems (M224 and M252) produced by Watervliet Arsenal, Watervliet, NY. Manufacturer of replacement systems to be determined.

Mortar Ballistic Computer

Description

The Mortar Ballistic Computer (MBC) will automate technical mortar fire direction and replace the M16 and M19 plotting boards as the primary means of computing 60mm and 81mm mortar firing data. The end-state MBC system will consist of a ruggedized, handheld device utilizing the latest Windows-based operating system to host the Mortar Ballistic Kernel Software. This standalone system will be fielded to 60mm mortar sections at the infantry company level, and 81mm mortars at the infantry battalion level.

Operational Impact

The MBC will provide faster, safer, more accurate computation of the firing data under all combat and training conditions. It will provide the primary means by which Fire Direction Center (FDC) personnel convert request for fire to appropriate firing data and fire commands, by automating the computation and display of accurate firing solutions. The MBC will also provide the capability of an automated firing solution that accounts for non-standard conditions (propellant temperature and meteorological data). Without this capability, mortars must fire time-consuming registration missions that needlessly expend ammunition against inactive targets, while divulging their own location. Common hardware will be used for the MBC. The baseline hardware will be the same for the

Pocket Forward Entry Device (PFED) used by Army/Air Force Forward Air Controllers (FAC), Back-Up Computer System (BUCS) used by Marine Corps artillery units, and Dismounted Digital Automated Computer Terminal (D-DACT) used by the Marine Corps infantry. This provides common configuration across the services.

Program Status

MBC is an Acquisition Category III, Army-led, joint-interest program. The MBC project office is coordinating with the Army's Program Manager (PM) Mortars to leverage their Lightweight Handheld Mortar Ballistic Computer (LHMBC) effort. A research, development, test, and evaluation effort began in first quarter FY 03 to develop the MBC system. Software has passed Full Qualification Tests (FQT), and the Operational Test was completed during November 2004. Marine Corps hardware procurement decision is currently scheduled during second quarter FY 05.

Procurement Profile: FY 05 FY 06

Quantity: 623 0

Developer/Manufacturer:

Software and Integration:

Program Manager, Mortars, Picatinny Arsenal, Aberdeen Proving Grounds, MD

Hardware:

Obtained from U.S. Government
General Services Administration

Common Laser Range Finder



Description

The Common Laser Rangefinder (CLRf) program is the single program of record for the material development of current and future Marine Corps targeting LRFs. The program will address capability shortfalls and emerging technologies through modifications and technology insertions. The CLRf program is designated as an Acquisition Category IV (T) program and will procure the commercial-off-the-shelf/non-developmental item (COTS/NDI) Vector 21B systems to meet the existing requirements for the Marine Corps LRF capability. The Vector 21B is a small, lightweight, and eye-safe laser rangefinder and azimuth with inclination sensors that export targeting data to the Precision Lightweight

Global Positioning System (PLGR), and/or the Defense Advanced Global Positioning System (GPS) Receiver (DAGR) and Target Hand-Off System (THS).

Operational Impact

The Vector 21B will facilitate first-round accuracy during fire-for-effect missions which, in turn, will increase firing platform lethality and reduce ammunition expenditures. The system provides target location against tank-sized targets at ranges of up to 12 kilometers. The CLRf program will provide a common laser rangefinder solution to fulfill multiple requirements, which will allow these new capabilities to be fielded faster and reduce acquisition and sustainment costs.

Program Status

A base contract for CLRf awarded in July 2003 includes the procurement of 501 systems and production options on up to 3,000 additional systems through FY 2008. The program received its Milestone C decision during first quarter FY 05. Fielding is scheduled to begin third quarter FY 05.

Procurement Profile: FY 05 FY 06

Quantity: 150 450

Developer/Manufacturer:

Prime Contractor:

Ashbury International Group, Sterling, VA

Major Subcontractor:

Vectronix, Switzerland

Tactical Hand-Held Radio



Description

The Tactical Hand-Held Radio (THHR), which is also designated as the AN/PRC-148(V)(C), is a small, secure device that provides Marine Corps units with a standardized and maintainable radio to support the communications requirements of small units (platoon, squad, and team). The THHR operates in the AM and FM bands, contains embedded communications security, and is interoperable with other radio systems, such as Single-Channel Ground and Airborne Radio System (SINCGARS) and HaveQuick II, in the single-channel mode and frequency-hopping modes.

Operational Impact

The THHR is an interim system. Legacy tactical hand-held equipment within the Marine Corps had exceeded its expected life span and was rarely used. As a result, the hand-held units primarily consisted of locally purchased, commercially available radios that were not interoperable with Marine Corps combat net radios. The THHR has consolidated and exceeded legacy capabilities, lightened the combat load of individual Marines and small units, and reduced tactical hand-held radio operating costs.

Program Status

The THHR is in the Production and Deployment Phase (Milestone C). The Marine Corps is developing the THHR with the U.S. Special Operations Command (USSOCOM). USSOCOM currently has a production contract in place that facilitates joint acquisition with the Marine Corps, with fielding that commenced in 2001. The Marine Corps' approved acquisition objective (AAO) is 5,620 radios.

Procurement Profile: FY 05 FY 06

Quantity: 495 597

Developer/Manufacturer:

Thales Communications, Inc., Clarksburg, MD

Tactical Remote Sensor Systems-Product Improvement Program



Description

Tactical Remote Sensor Systems (TRSS) provide all-weather remote monitoring of activity within and near a given objective area. The TRSS- Product Improvement Program (PIP) is an incremental upgrade to selected portions of these systems. The TRSS-PIP will use state-of-the-art seismic, infrared, magnetic, acoustic, and thermal-imaging sensors to autonomously classify, identify, and report threat activity, which is active in their detection range according to operator selectable reporting criteria. Major components of the TRSS-PIP are Unattended Ground Miniaturized Sensors (UGMS) that are hand-emplaced, and Advanced Air-Delivered Sensors (AADS) that are fixed-wing emplaced. These systems will upgrade the current fielded baseline and provide a Corps-wide capability for unattended ground surveillance that

can be tailored to the operational requirement. TRSS is employed by the Marine Corps' Ground Sensor Platoons (GSPs).

Operational Impact

Initiated in 1991, TRSS replaced the Vietnam-era REMBASS system with upgraded electronics, sensors, and relays, which were reduced in weight and size, and monitoring devices that give the GSP extra capabilities without changing its operational profile.

Program Status

TRSS achieved initial operational capability in 1992 and is currently 100 percent fielded.

Procurement Profile:	FY 05	FY 06
Quantity:		
Thermal Imagers	155	37
Electro-optical Imagers	155	37
Target Recognition Sensors	68	350
Advanced Air		
Delivered Sensors	80	145
Satellite Communications		
Modules	100	
Developer/Manufacturer:		
NOVA Engineering, Inc., Cincinnati, OH		
Textron Systems, Wilmington, MA		
Ocean Systems Engineering Corporation (OSEC), Carlsbad, CA		

Target Location, Designation and Hand-Off System



Description

The Target Location, Designation and Hand-off System (TLDHS) is a modular, man-portable equipment suite that provides the ability to quickly acquire targets in day, night, and near-all-weather visibility conditions. Operators are able to accurately determine their own location, as well as that of their targets, digitally transmit (hand-off) data to supporting arms elements, and designate targets for laser-seeking Precision Guided Munitions (PGM) and Laser Spot Trackers (LST). The TLDHS will be fielded to Forward Observer (FO) Teams, Naval Gun Fire (NGF) Spot Teams, Tactical Air Control Parties (TACPs), and Reconnaissance Teams.

Operational Impact

The system enables the user to perform target acquisition, and then hand targets off to fire support agencies via an interface with tactical data systems, using current and planned communications equipment. TLDHS will employ a laser designator for guiding PGMs and laser spot trackers. The primary users of the system will be Forward Air Controllers (FACs) for maneuver elements, FOs for field artillery, Fire Power Control Teams (FCT) of the Air and Naval Gunfire Liaison Companies (ANGLICO), as well as Marine Liaison Elements (MLE),

Division and Force Recon Marines, and supporting establishments responsible for the training of FOs, FACs, and FCT personnel.

Program Status

An evolutionary acquisition approach is used for the TLDHS program. All of the hardware components of the system are commercial-off-the-shelf (COTS) or government-off-the-shelf (GOTS). As such, they continue to be upgraded and improved as technology advances. In order to keep pace with these advances, three block upgrades are planned after the initial fielding block of the TLDHS system. Block I completed fielding during FY 04. This initial capability provides the Marine FAC a digital Close Air Support (CAS) capability for AV-8B and F/A-18 aircraft. As other developmental programs are further refined, such as the Rugged Handheld Computer (RHC) and Joint Tactical Radio System (JTRS), they will be incorporated/upgraded within the TLDHS system. Version updates of Target Hand-Off System (THS) software will also be included as a part of the block upgrades. The TLDHS evolutionary acquisition strategy is divided into four blocks that represent the progressive acquisition of system capabilities and performance.

Procurement Profile: FY 05 FY 06

Quantity: 50 150

Developer/Manufacturer:

THS Software:

Stauder Technology, Saint Peters, MO

Ruggedized Handheld Computer:

General Dynamics, Taunton, MA

Radio: Harris RF Communications, Rochester, NY

Topographic Production Capability

Description

The TPC supports the Marine Corps operational mission by improving the topographic and geospatial analytical capabilities of the Marine Expeditionary Forces (MEF) Topographic Platoons and, for the first time, provides the Marine Division with a resident topographic capability. This resulted in a system that speeds geospatial information collection and processing, and produces and disseminates up-to-date mapping products to the supported commander, whether at the Division, MEF or joint levels. The effort integrates cutting-edge commercial and Non-Developmental Item (NDI) hardware and software into a scalable, deployable, man-portable system. TPC consists of the Tactical Geospatial Information Library (TGIL), Deployable Geospatial Information Library (DGIL) Workstation, DGIL Server, Digital Terrain Analysis Mapping System (DTAMS), and Geodetic Survey Set (GSS). The primary difference between the TGIL, DGIL, and DTAMS is in the amount of information that may be stored, processed, and disseminated.

Operational Impact

The TPC is used by the MEF Topographic Platoon and provides deployable modules down to the Major Subordinate Commands (MSC) and the Marine Expeditionary Units (MEU). It may also be used to support the commander, Joint Task Force (JTF), or Marine component commander. The TPC provides the capability to scale up or down, dependent on the type of mission, size of the force, and specified geospatial requirements. The TPC is a transportable, highly mobile, modularized network of systems that allows the commander to exercise near-real-time control, coordination, and direction of Marine Air-Ground



Task Force (MAGTF) geospatial and Geographic Intelligence (GEOINT) production operations. Marine GEOINT specialists can employ TPC equipment in garrison, field, and shipboard operations and exercises.

Program Status

The TPC has been delivered to I, II, and III MEFs. The National Geospatial Intelligence School (NGS) received a TPC in fourth quarter 2004. Anticipated fielding of the TPC to the Marine Corps Intelligence Activity (MCIA) is second quarter FY 05. Additionally, TPC components have been assigned to support each of the Marine Divisions, the Chemical Biological Incident Response Force (CBIRF) in Indian Head, MD, and the Marine Corps Special Operations Command (MARSOC) Detachment-1 at Marine Corps Base, Camp Pendleton, CA.

Procurement Profile: FY 05 FY 06

Quantity:

TGIL	1	0
DGIL-S	1	0
DGIL-W	8	0
DTAMS	0	0

Developer/Manufacturer:

Hardware/Software Integrator:

Northrop Grumman Information Technology,
TASC, Chantilly, VA

Transition Switch Module

Description

The TSM supports Marine Air-Ground Task Force (MAGTF) command and control mission objectives. The TSM provides local and remote subscriber access, circuit switching and multiplexing, call service attendant, transmission multiplexing, transmission security, and patching capability for deployed Marine forces. The TSM is designed to operate within the context of the current and planned MAGTF C4I architecture as well as providing C2 services to MAGTFs that are capable of conducting operations across the spectrum of conflict. The TSM supports the communication requirements of the commander as they provide complementary capabilities and enabling operations in support of Joint, Combined and Coalition forces.

TSM will also be a key element in the Marine Corps' transition from legacy tri-service tactical switches to current commercial technology. TSM will provide three major functions. The deployable end office suite (DEOS) will provide voice-circuit switching and call-service-attendant

capabilities. The remote subscriber access module (RSAM) will extend these services to remote users. The deployable integrated transport suite (DITS) will provide bandwidth management, multiplexing, transmission security, and technical control functions. The DEOS, RSAM, and DITS will be integrated into transit cases for unit transport.

Operational Impact

Commercial-off-the-shelf (COTS) circuit switching within the Marine Corps allows for reduction of legacy equipment, improved interoperability, and more flexible modernization efforts.

Program Status

Contract award was protested. The Government entered into discussions with offerors and is now back in source selection. Contract award is expected during March 2005 with Milestone C in May 2006.

Procurement Profile:	FY 05	FY 06
Quantity:	0	75
Developer/Manufacturer:	TBD	

Combined Arms Command and Control Upgrade System



Description

The Combined Arms Command and Control Trainer Upgrade System (CACC-TUS) for the Combined Arms Staff Trainer will provide realistic command-and-control integration and fire support coordination training for Marine Air-Ground Task Force (MAGTF) staffs up to, and including, the Marine Expeditionary Brigade (MEB) level.

Operational Impact

This combined-arms staff trainer (CAST) upgrade will support the training required to prepare Marine Corps units to participate in live-fire training-particularly combined-arms exercises (CAX) held at MAGTF Training Command 29 Palms, CA, by providing the most effective classroom training and pre-CAX rehearsal opportunities prior to arrival.

Program Status

The Marine Corps awarded a contract for this upgrade in September 2001. The contractor/government team is investigating training technologies that have potential for transition into the CAST trainer to improve the training effectiveness of the system. In August 2002, an additional contract was awarded to support the project based on the finding of the initial contract award.

Procurement Profile: FY 05 FY 06

Quantity: (prototypes) 2 2

Developer/Manufacturer:
MTS Technology and SAIC, Orlando, FL

Pocket-Sized Forward Entry Device



Description

The Army has fielded the Pocket-Sized Forward Entry Device (PFED). The PFED enables the Forward Observer (FO) to digitally transmit the Call for Fire (CFF) to the Advanced Field Artillery Tactical Data System (AFATDS). It is a small, portable, ruggedized, communications-enabled computer that allows the operator to digitally communicate with artillery units to mark targets, while performing artillery and mortar fire missions. The PFED is used to compose, edit, transmit, receive, store, and display messages, and process data used in the conduct, planning, and execution of fire missions. It interfaces via cables to the Precision Lightweight GPS (Global Positioning System) Receiver, or PLGR, a laser rangefinder, and Single-Channel Ground and Airborne Radio System (SINCARS). Using the PLGR to determine the FO's position and the laser rangefinder to determine the location of the target with respect to the PLGR location, the PFED computes the target location and displays it for the FO. This information is automatically

entered into a CFF message. The completed CFF message is then transmitted to the supporting AFATDS.

Operational Impact

The PFED provides the ground fire support community with the digital entry capability that was requested to support Operation Iraqi Freedom (OIF). The Marine Corps fielded the PFED as an interim device for FOs to increase accuracy and speed up the CFF process, thus providing more responsive fire support to the warfighter. The PFED functionality is being incorporated into the Target Location, Designation and Hand-Off System (TLDHS) Block II. TLDHS Block II will replace the PFED.

Program Status

The PFED has been designated an Abbreviated Acquisition Program. As a part of the TLDHS program, the PFED was an interim solution to provide more responsive fire support capability. Full Operational Capability (FOC) of 151 PFEDs was achieved in September 2004.

Procurement Profile:	FY 05	FY 06
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Quantity:	0	0
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Developer/Manufacturer:

Hardware:

Talla-Tech, Tallahassee, FL

Modem:

Raytheon Systems Company, Ft. Wayne, IN

Software:

Booze Allen Hamilton, McLean, VA

Data Automated Communications Terminal

Description

The Mounted Data Automated Communications Terminal (DACT) provides command and control (C2) capabilities in support of commanders ranging from regiment down to a mechanized platoon level. The Mounted DACT system receives position-location data via an integrated military compliant GPS receiver, and exchanges PLI and messages with other users of Marine Air-Ground Task Force (MAGTF) Command, Control, Communications, Computers and Intelligence (C4I) systems. The Mounted DACT is used to transmit, receive, store, retrieve, create, modify, and display map overlays and Commanders Critical Information Requirements (CCIRs). Mounted DACT users include, but are not limited to, regimental/battalion commanders, company/battery commanders, main battle tanks, Assault Amphibious Vehicle (AAV) troop commanders, Light Armored Vehicle (LAV) platoon commanders, and heavy infantry weapons and antitank section leaders

The Dismounted DACT system user, will send and receive PLI and message data via a terrestrial communications network with a Mounted DACT located at the company level. The Dismounted DACT system will receive location data via an integrated military compliant GPS receiver.

Operational Impact

The DACT extends the MAGTF commander's C2 personal computer (C2PC) network down to the squad level. The DACT's improved capabilities will meet stipulated Operational Requirements and Operation Iraqi Freedom (OIF)-derived requirements to provide Blue Force

tracking and automated communications support for commanders in tactical operations. New capabilities include Beyond Line of Sight (BLOS) and enhanced communication paths, improved Graphic User Interface (GUI) software and a larger screen, and Selective Availability Anti-Spoofing Module (SAASM) GPS integration. These added capabilities make the DACT an integral component of Joint Blue Force Situational Awareness.

Program Status

Fielding of the M-DACT began in FY 03 to support combat operations during OIF-I. More than 814 M-DACTs have been fielded and are in the hands of operating forces. As the result of a Fielding Decision received during FY 04, procurement of D-DACT hardware has been initiated and fielding began in first quarter FY 05.

Procurement Profile:	FY 05	FY 06
Quantity:		
M-DACT	0	0
D-DACT	506	0
BFT	0	0
MTX	0	0

Developer/Manufacturer

Hardware:

DACT: Talla-Tech, Tallahassee, FL

BFT: Northrop Grumman Mission Systems, Carson, CA

MTX: General Dynamics C4 Systems, Scottsdale, AZ

Software:

DACT: Northrop Grumman Mission Systems, San Diego, CA

BFT: Northrop Grumman Mission Systems, Carson, CA

Portable Inductive Artillery Fuze Setter

Description

The Portable Inductive Artillery Fuze Setter (PIAFS) is a lightweight, hand-held electronic device that mates with and is used to set electronic fuzes. It consists of two basic components: the hand-held PIAFS device and its internal power source (standard D-cell or lithium batteries). PIAFS displays the selected fuze-setting functions and confirms that the fuze has been properly set. It supports all inductively set artillery fuzes currently in inventory/production for 105mm and 155mm weapon systems.

Operational Impact

The PIAFS will inductively set all separate loading fuzes for indirect fire projectiles capable of being inductively set. The current inventory of Marine Corps fuzes

will be expended and replaced by the Multi-Option Fuze Artillery (MOFA), which can only be set using the PIAFS. PIAFS is compatible with all U.S. and NATO standard inductive-settable fuzes.

Program Status

Authority to procure was delegated by Commander, Marine Corps Systems Command, to Program Manager, Fire Support Systems. Rock Island arsenal was awarded the contract in December 2004. Delivery is to be completed in fourth quarter FY 05.

Procurement Profile:	FY 05	FY 06
Quantity:	508	0
Developer/Manufacturer:	TBD by Rock Island Arsenal (PICA for the system)	

MAJOR ACQUISITION PROGRAMS

Aviation Combat Element Programs

Part 3



MV-22 Osprey



Description

The MV-22 Osprey tilt-rotor is an advanced-technology vertical/short takeoff and landing (V/STOL), multi-purpose tactical aircraft that will replace the current fleet of Vietnam era CH-46E and CH-53D aircraft. The MV-22 will join the Expeditionary Fighting Vehicle (EFV) and Landing Craft Air Cushion (LCAC) as an integral part of the Seabasing pillars necessary to execute Expeditionary Maneuver Warfare (EMW). Specific missions include expeditionary assault from land or sea, raid operations, medium cargo lift, tactical recovery of aircraft and personnel (TRAP), fleet logistics support, and special warfare. The MV-22's design incorporates the sophisticated, but mature technologies of composite materials, fly-by-wire flight controls, digital cockpits, airfoil design, and advanced manufacturing processes. The MV-22 Osprey is capable of carrying 24 combat-equipped Marines or a 10,000-lb. external load, and has a strategic self-deployment capability with a 2,100 nautical-mile range with single aerial refueling. The MV-22's prop-rotor system and

engine/transmission nacelle, which is 38 feet long and mounted on each wing tip, allow it to operate as a helicopter for takeoff and landing. Once airborne, the nacelles rotate forward 90 degrees, converting the MV-22 into a high-speed, high-altitude, fuel-efficient, turbo-prop aircraft. The MV-22 is a multi-mission aircraft designed for use by all the services. The Marine Corps, Navy, and Air Force are committed to the fielding of this unique aircraft. Procurement of the MV-22 remains the Marine Corps' No. 1 aviation acquisition priority.

Operational Impact

The MV-22 will be the cornerstone of Marine Corps' assault support capability, possessing the speed, endurance, and survivability needed to fight and win on tomorrow's battlefield. This combat multiplier represents a quantum improvement in strategic mobility and tactical flexibility for expeditionary and Prepositioning Maritime Forces (MPF).

Program Status

The Integrated Test Team (ITT) at

MV-22 Osprey (cont.)

Naval Air Station, Patuxent River, MD, Edwards Air Force Base, CA, and the Bell facility in Amarillo, TX and VMX-22 (an independent test organization) have flown more than 4,600 hours. VMX-22 currently has fifteen aircraft and is taking delivery of new MV-22s every month, as the squadron continues to train pilots in preparation for the Operational Evaluation in Spring 2005. The squadron recently completed an Operational Assessment of the MV-22, during which all events the squadron had planned for the aircraft were completed on or ahead of schedule. One of the events completed during the assessment was external lift and transport of the new light-weight 155 howitzer at 69 nautical miles, which exceeds the Key Performance Parameter. Rigorous developmental flight-testing continues and constitutes the *most extensive testing* of helicopter flight phenomena ever undertaken.

MV-22 aircraft will be produced in three blocks:

Block A series provide an improved aircraft with which the Marine Corps can train and fight. This includes a software enhancement and nacelle reconfiguration, plus additional reliability and maintainability (R&M) improvements.

Block B series aircraft provide further *improvements in effectiveness and suitability* for operators and maintainers, including better access to the nacelle for inspection purposes and substantial R&M advancements.

Block C configuration incorporates *mission enhancements*.

Procurement Profile: FY 05 FY 06

Quantity: 8 9

Developer/Manufacture:

Bell Helicopter Textron, Fort Worth, TX

The Boeing Company, Philadelphia, PA

H-1 Upgrade Program



Description

The H-1 Upgrade (UH-1Y/AH-1Z) program replaces the current two-bladed rotor system on the UH-1N and AH-1W aircraft with a new four-bladed, all-composite rotor system that is coupled with a sophisticated, fully integrated, state-of-the-art cockpit. In addition to the new rotor system and cockpit, the UH-1Y and AH-1Z will incorporate a new performance-matched transmission, four-bladed tail rotor and drive system, and upgraded landing gear for both aircraft. Additionally, structural modifications to the AH-1Z will support the increase to six weapons stations. The advanced cockpit, common to both aircraft, reduces operator workload, improves situational awareness, and provides growth potential for future weapons and joint interoperability. The cockpit integrates on-board planning, communications, digital fire control, self-contained navigation, night targeting, and weapons systems in mirror-imaged crew stations. The UH-1Y and AH-1Z are approximately 84-percent common throughout the aircraft, which significantly benefits the Marine Air-Ground Task Force (MAGTF) in supportability of the two aircraft. Ongoing developmental testing of the UH-Y and AH-1Z has demonstrated a marked increase in aircraft agility, maximum continuous speed, and payload.

Operational Impact

The H-1 Upgrade program is designed to resolve existing safety deficiencies, significantly improve operational capabilities, and reduce life-cycle costs. Commonality between aircraft will greatly enhance the maintainability and deployability of the systems with the capability to support and operate both aircraft within the same squadron structure.

Program Status

The H-1 Upgrade continues in the Engineering and Manufacturing Development (EMD) phase. To date, the five EMD aircraft (three AH-1Zs and two UH-1Ys) have amassed more than 2,500 flight hours since first flight. In December of 2003, a contract was signed for Low Rate Initial Production of nine aircraft. In 2005, the program will enter the Operational Test phase, which will verify the effectiveness and suitability of these aircraft for the warfighter. Due to substantial operational demands and aircraft attrition—both resulting from the Global War On Terrorism—the Marine Corps is pursuing a “build new” strategy for the UH-1 and examining a “build new” strategy for the AH-1, in order to preclude significant inventory shortfalls. The total program objective is 100 UH-1Ys and 180 AH-1Zs.

Procurement Profile: FY 05 FY 06

Quantity: 9 10

Developer/Manufacturer:
Bell Helicopter Textron Inc., Fort Worth, TX

Integrated Cockpit:
Northrop Grumman, Woodland Hills, CA

AH-1Z Target Sight System:
Lockheed Martin, Orlando, FL

Heavy Lift Replacement (HLR) Program

Description

The CH-53E Super Stallion, which was used extensively in Operation Enduring Freedom, is a three-engine, long-range, heavy-lift helicopter that is key to the assault support function of Marine Aviation. The current fleet of aircraft will reach the end of its service life during this decade. A comprehensive upgrade is required to effectively meet Marine Air-Ground Task Force (MAGTF) and joint warfighting requirements over the next 25 years. The upgrade focuses on reliability, maintainability, cost of ownership, and performance.

The Heavy Lift Replacement (HLR) program, formerly known as the CH-53X program, is the solution to maintain the Super Stallion as the premier heavy-lift aircraft beyond the year 2025. To properly and cost-effectively support sea-based Expeditionary Maneuver Warfare (EMW) for the Marine Corps in the 21st century, the upgraded CH-53 will deliver increased range and payload, reduced operations and support costs, increased commonality with other assault support platforms, and digital interoperability.

Operational Impact

The HLR program will improve operational capabilities and reduce life-cycle costs. Commonality between other Marine Corps aircraft in terms of engines and

avionics will greatly enhance the maintainability and deployability of the aircraft within the Air Combat Element (ACE). The HLR will vastly improve the ability of the MAGTF and Joint Task Force to project and sustain forces ashore from a sea-based center of operations in support of EMW. The performance improvements will enable the vertical insertion of two combat-loaded High Mobility Multipurpose Wheeled Vehicles (HMMWVs), one armored vehicle, or three 9,000-lb. sustainment loads to three separate landing zones. The reliability, maintainability, and cost of ownership improvements will allow all of this to happen more efficiently and at a lower cost.

Program Status

The Operational Requirements Document (ORD) completed joint staffing and was signed in December 2004. When the Analysis of Alternatives (AoA) was completed in September 2003, it was determined that building a new airframe was the most cost effective course of action.

Procurement Profile: FY 05 FY 06

Quantity: 0 0

Developer/Manufacturer:

CH-53E:

Sikorsky Aircraft Corporation, Stratford, CT

HLR:

Sikorsky Aircraft Corporation, Stratford, CT

KC-130J



Description

The KC-130 is a versatile four-engine, tactical aerial refueler/assault support transport aircraft. It is the only long-range, fixed-wing, assault-support capability organic to the Marine Corps. The KC-130J, with its increase in speed (+20 percent) and range (+35 percent) over legacy aircraft, features an improved air-to-air refueling system and a state-of-the-art flight station. The flight station includes two Head-Up-Displays (HUDs), night vision lighting, augmented crew station, and fully integrated digital avionics architecture. An Allison AE 2100D3 propulsion system, with full authority digital electronic controls (FADEC), Dowty R391 advanced technology six-bladed propeller system, and a 250-knot cargo ramp and door, complete the package, which will provide the Marine Air-Ground Task Force (MAGTF) commander with a state-of-the-art, multi-mission, tactical aerial-refueler/assault-support transport asset well into the next century. The Marine Corps is currently replacing its aging active fleet of KC-130Fs and KC-130Rs with the new KC-130J.

Operational Impact

The KC-130 provides fixed-wing, rotary-wing, and tilt-rotor with tactical in-flight refueling; rapid ground refueling of myriad of aircraft or tactical vehicles; assault air transport of air, land or aerially delivered personnel and equipment; airborne command and control augmentation; pathfinder; battlefield illumination; tactical aero-medical evacuation; and, Tactical Recovery of Aircraft and Personnel (TRAP) support. This force multiplier is well suited to the mission needs of the forward-deployed MAGTF. The KC-130J will bring increased capability and mission flexibility to combat planning with its satellite communications system capability, survivability enhancements, night systems improvements, enhanced aerial refueling and rapid ground refueling capabilities, and improved aircraft systems reliability.

Program Status

The KC-130J is procured as a commercial-off-the-shelf (COTS) aircraft currently in production. In FY 03, the Marine Corps entered a multi-year procurement program with the Air Force to bring the total number of Marine Corps KC-130J aircraft on contract to 33. The Marine Corps Program of Record for the KC-130J is 51 aircraft. Developmental/operational testing and an operational evaluation will be completed in FY 05 with continued delivery to the fleet and Initial Operational Capability (IOC) by February 2005.

Procurement Profile:	FY 05	FY 06
Quantity:	4	12
Developer/Manufacturer	Lockheed Martin Aeronautics Company	

F-35 Short Take-Off Vertical Landing (STOVL) Joint Strike Fighter (JSF)



Description

The F-35 Short Take-Off Vertical Landing (STOVL) Joint Strike Fighter (JSF) is a single engine, stealthy, supersonic, strike-fighter aircraft capable of short take-offs and vertical landings. JSF will combine the basing flexibility of the AV-8 with the multi-role capabilities, speed, and maneuverability of the F/A-18 to fulfill both the air-to-ground and air-to-air requirements of the Marine Corps. The aircraft will have very low radar cross-section and provide superior capabilities over legacy aircraft in the areas of survivability, lethality, and supportability. The F-35 will replace the Marine Corps' AV-8B and F/A-18A/C/D fleets, affirming a tremendous growth potential as the JSF matures into the premier next-generation weapons system.

Operational Impact

The STOVL JSF provides a multi-mission offensive air support and an offensive/defensive anti-air capability. The STOVL JSF also provides the Marine Air-Ground Task Force (MAGTF) with a platform capable of tactical air control and tactical reconnaissance. Additionally, the aircraft will be able to provide destruction

of enemy air defenses. The requirements for this aircraft are focused on readiness, the combined arms concept, and expeditionary capability and the ability to conduct Expeditionary Maneuver Warfare.

Program Status

The JSF is a joint program with the Air Force, Navy, Marine Corps, and the United Kingdom as Level I partners. Participating as Level II partners are Italy and The Netherlands, and Level III partners are Canada, Denmark, Norway, Turkey, and Australia. After reassessing the program baseline, the Systems Development and Demonstration (SDD) phase is scheduled to last until 2013. The SDD phase will include the certification of various precision engagement capabilities, as well as cutting-edge sensor fusion that will directly support the MAGTF commander. The program is scheduled to conduct the Critical Design Review (CDR) in November 2005. After completing CDR, the prime contractor will begin preparing the long lead items needed for Low Rate Initial Production (LRIP) scheduled for 2006. STOVL first flight is scheduled for summer of 2007, with follow on Initial Operational Capability (IOC) in 2012.

Procurement Profile: FY 06 FY 07

Quantity: 0 0

Developer/Manufacturer:

Air Vehicle:

Lockheed Martin, Northrop Grumman, and British Aerospace Engineering

Propulsion:

Pratt & Whitney and General Electric

Common Aviation Command and Control System (CAC2S)



Description

The Common Aviation Command and Control System (CAC2S) is a coordinated modernization effort to replace the existing command-and-control (C2) equipment of the Marine Air Command and Control System (MACCS), which will provide the Aviation Combat Element (ACE) with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate air operations. The CAC2S will accomplish MACCS missions with a suite of operationally scalable modules capable of supporting any operational contingency. The CAC2S integrates the functions of aviation C2 into an interoperable naval system that will support the core competencies of all Marine Corps warfighting concepts.

Operational Impact

The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of *Expeditionary*

Maneuver Warfare and fosters joint interoperability with the C2 systems. CAC2S will replace legacy C2 systems in the following Marine aviation C2 elements: Tactical Air Command Center (TACC), Tactical Air Operations Center (TAOC), Direct Air Support Center (DASC), Marine Air Traffic Control Detachment (MATCD), and Low Altitude Air Defense Battalion (LAAD BN).

Program Status

CAC2S is being developed in three increments as part of an evolutionary acquisition strategy. Increment I will replace the functionality of the TAOC, and will baseline the core information fusion and management function common to all increments. Increment II will achieve integration between CAC2S and the Air Traffic Navigation and Coordination System for air traffic control functionality. CAC2S is an Acquisition Category II Program in the system development and demonstration phase. Initial Operational Capability (IOC) for Increment I and Increment I is planned concurrently for FY 2007.

Procurement Profile:	FY 05	FY 06
Quantity:	0	0
Developer/Manufacturer:	Raytheon Integrated Defense Systems, San Diego, CA	

AN/TPS-59(V)3 Radar System



Description

The AN/TPS-59(V)3 radar system is the Marine Corps' only long-range, 3-D, air surveillance, Tactical Ballistic Missile (TBM) capable radar. The AN/TPS-59(V)3 radar system is a transportable, solid-state, L-band radar. It is the MAGTF's principal air surveillance radar and is integrated into the AN/TYQ-23(V)4 Tactical Air Operations Module (TAOM). It may also be configured for operation with the AN/MSQ-124 Air Defense Communications Platform (ADCP) to provide TBM track data to the Joint Tactical Information Distribution System. The radar has also become a key component in the employment of the Navy's Cooperative Engagement Capability (CEC) and is the Marine Corps' lead sensor in the development of the Composite Tracking Network (CTN).

Operational Impact

The AN/TPS-59(V)3 is optimized to detect and track tactical ballistic missiles (TBMs) and air-breathing targets (ABTs), either of which can be a serious threat to

MAGTF operations. The AN/TPS-59(V)3 will primarily be used to support MAGTF aviation during sustained operations ashore, as part of a joint theater air and missile defense architecture. The radar supports the MAGTF commander in Anti-Air Warfare (AAW) operations with en route traffic control to a distance of 300 nautical miles (nmi) and TBM surveillance to 400 nmi. Eight (8) of the eleven (11) AN/TPS-59(V)3 radar systems were deployed during Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), with five (5) deployed in direct support.

Program Status

Research and development efforts have produced engineering change proposals to replace obsolete hardware and software improvements, which ensure that the AN/TPS-59(V)3 remains a viable sensor throughout its planned service life. Implementation of these changes began in FY 2003. Additionally, the Marine Corps is pursuing a 3-D, long-range sensor replacement capability for the AN/TPS-59(V)3 that is still capable of engaging air-breathing and TBM targets, but which possesses a vastly reduced footprint and improved mobility. Initial operational capability of the upgraded radar is scheduled for FY 2012.

Procurement Profile: FY 05 FY 06

Quantity: various various

Developer/Manufacturer:
Lockheed Martin Corporation, Syracuse, NY

Multi-Role Radar System (MRRS)

Description

The Multi-Role Radar System (MRRS) is a highly mobile radar system to be employed by the Marine Air-Ground Task Force (MAGTF) in all phases of Marine Corps operations. The MRRS is a medium-range surveillance radar used to detect and track aircraft, cruise missiles, and unmanned aerial vehicles (UAVs). The system will serve as a gap-filler radar by providing three-dimensional (3-D) coverage of those areas out of view of the AN/TPS-59 (V) 3 due to terrain masking, mandated frequency blanking of the primary sensor, or other line-of-sight limitations. Additionally, the MRRS will be capable of providing radar-cueing data to all short-range air defense units deployed in support of the MAGTF. The radar is intended to replace and perform all the missions currently associated with the AN/TPS-63 radar, AN/TPS-73 Air Traffic Control radar, and the AN/MPQ-62 surveillance radar. The radar will have connectivity to the Composite Tracking Network (CTN) and be deployed early during Expeditionary Maneuver Warfare (EMW) distributed operations to augment sea-based air defense sensors and command and control capabilities.

Operational Impact

The radar will provide the speed and flexibility required for enhanced detection identification of low-level, low-radar, cross-section Air Breathing Targets (ABT), and tracking in the execution of all EMW-distributed operations. Execution and support of these strategies require the maneuver and control of aircraft, cruise missile, and

UAV assets from ships well over-the-horizon directly to their objectives, at much greater distances inland than has been historically required. In addition, the radar will be capable of cueing and reporting on targets detected within its coverage limits to designated air command and control agencies. The reduced logistical footprint and mobility of the radar will enhance the capabilities of Marine Air Command and Control System (MACCS) elements in support of all phases of MAGTF operations. Once ashore, the radar will possess the mobility required to keep pace with supported maneuver elements and will complement the Marine Corps' long-range radar, the AN/TPS- 59 (V) 3, by providing accurate low-level tracks.

Program Status

The MRRS achieved Milestone 0 in August 2000 and the Joint Requirements Oversight Council (JROC) approved the Operational Requirements Document (ORD) in July 2004. Initial Operational Capability (IOC) is planned for FY 10 with Full Operational Capability (FOC) in FY 16.

Procurement Profile:	FY 05	FY 06
Quantity:	0	0
Developer/Manufacturer:	TBD	

Air Surveillance and Precision Approach and Radar Control System (ASPARCS)

Description

The Air Surveillance and Precision Approach and Radar Control System (ASPARCS) is the program that will provide our next generation expeditionary air traffic control (ATC) equipment. The Air Traffic NAVigation, Integration, and Coordination System (ATNAVICS) is the material solution to this requirement for replacement of legacy expeditionary equipment with High Mobility Multipurpose Wheeled Vehicle (HMMWV) mounted radars and a communications and control suite (TPN-3). It will provide an all-weather ATC capability for an expeditionary airfield or forward operating base.

Operational Impact

The ASPARCS will provide a HMMWV-mounted, state-of-the-art ATC surveillance and precision approach radar system that significantly reduces tactical and strategic lift requirements, which is self-mobile and

does not rely on material handling equipment. The system will be interoperable with other CAC2S applications, utilize common hardware and software, and be capable of functioning as an ACE command and control (C2) node. This program provides a dynamic expeditionary ATC radar capability that can be deployed in a package of two C-130 equivalents.

Program Status

ASPARCS Initial Operational Capability (IOC) is planned for FY06. The Full Operational Capability (FOC) is planned for FY10.

Procurement Profile:	FY 05	FY 06
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Quantity:	2	2
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Developer/Manufacturer:

Raytheon Integrated Defense Systems
San Diego, CA

Complementary Low Altitude Weapon System (CLAWS)



Description

The Complementary Low Altitude Weapon System (CLAWS) is a mobile, rapidly deployable, high-firepower, all-weather, standoff air defense system. CLAWS is designed to defend Marine Expeditionary Forces (MEFs) and naval forces from attack by cruise missiles, fixed- and rotary-wing aircraft, and unmanned aerial vehicles (UAVs). The system consists of a launcher integrated with the Advanced Medium Range Air-to-Air Missile (AMRAAM) on a High Mobility Multipurpose Wheeled Vehicle (HMMWV) platform, missile interface equipment, remote terminal units, a three-axis geographic position system (GPS), GPS receiver, Single-Channel Ground and Airborne Radio System (SINCGARS), and a reloading device.

Operational Impact

Highly mobile and extremely lethal, CLAWS extends the Marine Air-Ground Task Force (MAGTF) commander's 3-D defenses. Currently, Stinger/Avenger systems provide effective close-in, low-altitude air defense for the commander against threat aircraft and UAVs. CLAWS provides anti-cruise missile capabilities, possesses the mobility and lethality needed to support MAGTF operations, and fills gaps in naval air defense coverage during extended littoral operations.

Program Status

CLAWS is an Acquisition Category III program. CLAWS Block O is scheduled to field in FY 05

Procurement Profile:	FY 05	FY 06
Quantity:	2	2
Developer/Manufacturer:	Raytheon Integrated Defense Systems, Bedford, MA	

Direct Air Support Central Airborne System (DASCAS)



Description

The Direct Air Support Central Airborne System (DASCAS) consists of one shelter that can be mounted in specially modified KC-130F/R/T aircraft or the bed of an M923/925 or Medium Tactical Vehicle Replacement (MTVR) truck. Seven operators within the DASCAS can select from seven radios—three ultra-high frequency, two high frequency, one very-high frequency, and one satellite communication (SATCOM). The DASCAS is a replacement for the AN/UYQ-3A. Its function is to complement the AN/MRQ-12 Communication Interface System by performing the air mission for the Direct Air Support Center (DASC). The DASCAS can also be used as a forward element of the DASC and, when necessary, can assume deep-battle management functions. There are 10 AN-UYQ-3As within the Marine Corps that will be replaced by the DASCAS.

Operational Impact

The DASCAS will augment the ground-based DASC as a principle agency for the coordination and control of offensive air support operations. The DASCAS can operate in either an autonomous mode or in conjunction with other control elements of the Marine Air Command and Control System. The fielding of the upgraded DASCAS will not cause any doctrinal changes in the DASCAS function.

Program Status

The DASCAS received a favorable Milestone C, full-rate production decision in December 2003. DASCAS production began in FY 2003. Full operational capability will be achieved by the fourth quarter of FY 2005 with 10 systems. Future modifications to the DASCAS will allow the system to be used in the KC-130J as an initial step toward a Common Aviation Command and Control System (CAC2S) based airborne command and control (C2) node.

Procurement Profile:	FY 05	FY 06
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Quantity:	5	0
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Developer/Manufacturer:	Naval Surface Warfare Center Division, Crane, IN
	TBD

Theater Battle Management Core System (TBMCS)

Description

TBMCS is an air war planning tool for the generation, dissemination, and execution of the Air Tasking Order/Airspace Control Order (ATO/ACO) mandated by the Chairman, Joint Chiefs of Staff. The host system resides with the Aviation Combat Element (ACE) commander in the Tactical Air Command Center (TACC), with remotes located throughout the MAGTF to support dynamic mission updates. It is the principal aviation command-and-control system with joint oversight.

Operational Impact

TBMCS is the principal aviation command-and-control system within the TACC. It is a key resource for generating, disseminating, and executing the ATO during joint or coalition operations and contingencies.

Program Status

TBMCS versions 1.1 and 1.1.1 are currently fielded within the joint services (v1.1 with the Marine Corps and Navy). Research and development efforts are ongoing to upgrade TBMCS from a SUN UNIX environment to a Windows 2000/web-based environment with TBMCS v1.1.3. Government testing of v1.1.3 is scheduled for the second through fourth quarters of FY 2004, with the release of v1.1.3 anticipated late in the fourth quarter of CY 2004. Fielding of v1.1.3 within the Marine Corps will refresh the hardware and infrastructure technology of current equipment. Additional versions of TBMCS are scheduled yearly.

Procurement Profile:	FY 05	FY 06
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Quantity:	8	8
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Developer/Manufacturer:

USAF integration contractor:

Lockheed Martin Mission Systems,
Colorado Springs, CO

Ground/Air Task Oriented Radar (cont.)

Description

The Ground/Air Task Oriented Radar (G/ATOR) has four incremental deliveries. G/ATOR is an expeditionary, HMMWV-based single material solution to fill the Multi-Role Radar System (MRRS) and Ground Weapon Locating Radar's (GWLR) operational requirements.

Increment I is a medium-range Air Surveillance radar used to detect and track aircraft, cruise missiles, and Unmanned Aerial Vehicles (UAVs). The system will serve as a gap-filler radar by providing three-dimensional coverage of those areas out of view of the AN/TPS-59(V)3 due to line-of-sight limitations. The radar is intended to replace all the missions currently associated with the AN/TPS-63 and AN/MPQ-62 radars.

Increment II provides the next-generation ground weapon locating radar. The G/ATOR will replace the AN/TPQ-46A as the Marine Corps' hostile indirect fires target locating system. The primary mission of the G/ATOR, employed in the counter fire role, is to locate mortar, artillery, and rocket threats and provide accurate location information to friendly counter fire weapons. The secondary role of the counter fire G/ATOR is to provide "did hit" data to friendly weapon systems for adjust fire and battle damage assessment. Increment III will improve upon Increment I's air mission capabilities.

Enhancements include: Advance Combat ID circuitry and software (Non Cooperative Target Recognition), integrated Cooperative Engagement Capability/Composite Tracking Network, advanced ECCM capabilities (Decoys), and Radar Environmental Simulator, as well as

Integrated Data Environment capabilities. Any hardware improvements associated with Increment III will be incorporated into radars delivered under Increment II, as well. Increment IV will add Air Traffic Control functionality and replace the AN/TPS-79 radar.

Operational Impact

G/ATOR will have the responsiveness needed to detect, identify, and track enhanced, low-level air-breathing targets, as well as indirect fire threats during the execution of all Expeditionary Maneuver Warfare (EMW) operations. In addition, the radar will be capable of cueing and reporting on targets detected within its coverage limits to designated air and ground command-and-control agencies. The reduced logistical footprint of the radar will enhance the capabilities of MACCS and artillery regiments in support of all phases of MAGTF operations. It will possess the mobility required to keep pace with supported maneuver elements and will complement the Marine Corps' long-range radar, the AN/TPS- 59(V)3, by providing accurate low-level tracks. The ground and air mission capabilities provided in this single system gives an operational flexibility previously unheard of to the MAGTF commander.

Program Status

G/ATOR Increment I is in pre-Milestone B Concept Development, which is currently scheduled for 1st Quarter FY 05. IOC is scheduled for 4th Quarter FY 2010, with FOC in FY 2016.

Procurement Profile:	FY 05	FY 06
Quantity:	0	0
Developer/Manufacturer:	TBD	

Single Integrated Air Picture (SIAP)

Description

The Single Integrated Air Picture (SIAP) is the air component of the Common Tactical Picture (CTP) that is generated and distributed by the various sensors and command-and-control systems that make up the Joint Data Network (JDN) for the Marine Corps. This program funds the integration of software and other coordinated support to ensure all systems effected meet the joint demands for a SIAP based on feeds and interpretation. Current sensor feeds come from the AN/TPS-59, AN/TPS-63, and the AN/TPS-73 radars. Current command-and-control systems are the AN/TYQ-23 Tactical Air Operations Module, Multi-Source Correlation System, AN/TSQ-131 Command and Control Sub-System, and the Air Defense Control Platform. Future systems include the Common Aviation Command and Control System (CAC2S), Complementary Low Altitude Weapons System (CLAWS), and Ground/Air Task Oriented Radar. The primary means of sharing the SIAP is through the components of the Joint Tactical Information Data System (TADIL J), which feeds the JDN. However, sensor data will be shared among systems implementing the SIAP Integrated Architecture Behavior Model (IABM) via a peer-to-peer network.

Operational Impact

The anticipated improvements produced by SIAP will enhance the capabilities

of our current and future command and control systems and aviation platforms. A CTP that is reliable and accurate will provide a significant improvement in our ability to employ our aviation assets and increase our combat effectiveness, while preserving our warfighting assets.

Program Status

Fixes to the SIAP are being approached using a spiral development system supported by a series of block improvements. Block 0 fixes have been implemented in the Marine Corps systems that require them, such as the Tactical Air Operations Module. Block I engineering tasks will be based on model-driven architecture, which will be used to produce an integrated architecture (IA) database. The Joint SIAP System Engineering Organization (JSSEO) will use the IABM to produce a common platform-independent model (PIM), which all services will use to develop a platform-specific model (PSM) for integration into their open architecture systems. PIM 05, which is due to be released in late FY 2005, will be the first PIM developed.

Procurement Profile:

Current funding profiles allocate funding through FY 2008 to support the continued spiral development of the program.

Developer/Manufacturer:

No specific contractor. SIAP-related funds are primarily provided to other supported programs.

MAJOR ACQUISITION PROGRAMS

Combat Service Support Element Programs

Part 4

Family of Construction Equipment

Description

The Marine Corps Family of Construction Equipment encompasses a wide variety of apparatus, ranging from heavy earth-moving machinery to small excavation vehicles. It includes the D7G bulldozer (with ripper and winch), Scraper 621B wheeled hydraulic excavator, small 1155 bucket loader, 1150 angle-blade bulldozer, road grader 130G, runway sweepers, backhoe loaders, engineer equipment trailers, and 260 CFM compressors.

Operational Impact

The Family of Construction Equipment provides the Marine Air-Ground Task Force (MAGTF) with the ability to conduct mobility, survivability, and general and civil engineering tasks in support of operating forces. Examples include building airfields, emplacing pads for vertical/short take-off and landing (V/STOL) aircraft, clearing landing zones, creating fuel berms, and general construction.

Program Status

The Family of Construction Equipment program maintains the Marine Corps'

construction capability. As such, various items are replaced as determined appropriate by the life cycle manager, Program Manager Engineer Systems. Specific items may be managed as acquisition or abbreviated-acquisition programs. However, there are several acquisition programs in progress at any point in time.

Procurement Profile: FY 05 FY 06

Quantity: Various Various

Developer/Manufacturer:

D7G bulldozer, road grader/scrapper,
wheeled tractor, backhoe loader:

Caterpillar Defense and Federal Products,
Mossville, IL

Ultimate Building Machine:

MIC Industries, Elton, PA

Sweeper:

Elgin Sweeper Company, Elgin, IL

260 CFM compressor: Ingersoll-Rand
Company, Monksville, NC

Vibratory roller/compactor:

Caterpillar Paving Products, Champlin, MN

1150 angle-blade bulldozer and

1155 bucket loader: TBD

Family of Material Handling Equipment

Description

The Marine Corps Family of Material Handling Equipment encompasses a wide variety of material-handling assets, ranging from light forklifts to heavy cranes and container handlers. Specific systems include the rough-terrain container handler; extended boom forklift; light-capability, rough-terrain forklift; high-speed, high-mobility crane; light, rough-terrain crane; mobile welding equipment; and, multi-purpose, rubber-tired articulated tractor.

Operational Impact

Procurement of these systems will ensure that Combat Service Support Elements (CSSEs) have the ability to support the scheme of maneuver and logistical requirements of their Marine Air-Ground Task Force (MAGTF).

Program Status

The Family of Material Handling Equipment program maintains the Marine Corps' material handling and transportation support capability. As such, various

items are replaced as determined appropriate by the life cycle manager, Program Manager Engineer Systems. Specific items may be managed as acquisition or abbreviated-acquisition programs. However, there are several acquisition programs in progress at any point in time.

Procurement Profile: FY 05 FY 06

Quantity: Various Various

Developer/Manufacturer

Extended boom forklift:

JLG Industries, Inc., McConnellsburg, PA

Light-capability, rough-terrain forklift:

Terex American Crane, Wilmington, NC

**Multi-purpose, rubber-tired,
articulated-steering tractor:**

John Deere, Davenport, IA

Rough Terrain Crane: TBD

Rough Terrain Container Handler:

Kalmar LLC, San Antonio, TX

Tactical Welding Shop:

Power Manufacturing, Covington, TN

Logistics Vehicle System Replacement



Description

The Logistics Vehicle System Replacement (LVSR) will replace the current Marine Corps heavy-tactical wheeled vehicle, the Logistics Vehicle System (LVS). As the Marine Corps' heavy-tactical distribution system, the LVSR will transport bulk liquids (fuel and water); ammunition; standardized containers; bulk, breakbulk, and palletized cargo; and, bridging equipment. The vehicle will also perform heavy wrecker/recovery missions, and tow engineer equipment and combat vehicles with the M870A2 semi-trailer. The LVSR will be employed throughout the Marine Air-Ground Task Force (MAGTF) in the Force Service Support Group (FSSG), Marine Divisions (MAR DIVs), and Marine Aircraft Wings (MAWs).

Operational Impact

To successfully accomplish its mission, MAGTFs require a heavy ground-logistics distribution system that is highly mobile, efficient, extremely reliable, and flexible. This system must be capable of operating over increased distances, with increased payloads, to meet the demands of *Expeditionary Maneuver Warfare (EMW)*. The LVSR will rapidly distribute all classes of supply, while including a self-loading/unloading capability to reduce dependence on external material-handling equipment.

Program Status

Two System Development and Demonstration (SD&D) Phase Contracts were awarded in March 2004 for the design, build, and test of six prototype LVSR cargo variants. Prototypes will be delivered for Developmental Testing (DT) in March 2005. Upon successful completion of DT and final selection of one production contractor, 20 low rate initial production vehicles will be procured during FY 2006 for First Article Test (FAT) and Operational Test and Evaluation (OT&E).

Procurement Profile:	FY 05	FY 06
Quantity:	0	20
Developer/Manufacturer:	TBD	

Tactical Water Purification System

Description

The Tactical Water Purification System (TWPS) is a skid-mounted, generator-powered system capable of producing potable water from a broad range of water sources—such as fresh, brackish, salt, and Nuclear, Biological and Chemical (NBC) contaminated water source—at a rate of 1,200-1,500 gallons per hour (GPH) in expeditionary environments. TWPS can be transported by highway, rail, sea, and air transport modes. The TWPS will replace the aging 600-GPH Reverse Osmosis Water Purification Units (ROWPUs) at a one for two ratio.

Operational Impact

The TWPS will be used in the purification of salt water in more than 75 percent of its operations. Water production in an expeditionary setting is particularly critical to Marine Corps operations. The TWPS will be employed in pairs, as a direct asset within the Engineer Support Battalions, Combat Service Support Detachments, Forward Combat Service Support

Attachments, and Marine Wing Support Squadrons in support of MAGTF operations. TWPS will be integrated with the Family of Water Supply Support Equipment to provide water support for combat forces throughout the theater of operation. This capability provides the commander with options that will not tie down forces to specific locations or force them to rely on host nation support.

Program Status

The current authorized acquisition objective is 243 TWPS. The program is currently funded for procurement during the FY 02 to FY 07 time period. The TWPS successfully completed Initial Operational Test and Evaluation (IOT&E), and will proceed into Full Rate Production (FRP) production during third quarter FY 04.

Procurement Profile:	FY 05	FY 06
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Quantity:	26	55
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Developer/Manufacturer:
SFA Inc., Frederick Manufacturing Division,
Frederick, MD

MAJOR ACQUISITION PROGRAMS

Other MAGTF Support Programs

Part 5

Family of Field Medical Equipment

Description

The Family of Field Medical Equipment consists of blocks of medical material configured to provide health services support to Marines in the combat environment. There are 25 various configurations called Authorized Medical/Dental Allowance Lists (AMAL/ADAL), covering a wide spectrum of health services in support of a Marine Air-Ground Task Force (MAGTF). The main components of the AMAL/ADAL are laboratory, X-ray, aid station, pharmacy, operating room, forward resuscitative surgery, shock/surgical team, ward, preventive medicine, environmental supplements, field dental operator, NBC (Nuclear, Biological, Chemical) medications, and bio-medical equipment repair. There are 2,763 of these various blocks in the Marine Corps inventory with an estimated total cost of \$75 million.

Operational Impact

AMALs and ADALs provide material for echelons I and II health service support to the MAGTF. Lack of this capability would result in unnecessary loss of life or

limb for injured and sick Marines on the battlefield, and a marked degradation in combat effectiveness. AMALs and ADALs are stored at strategic locations, ready for deployment at a moment's notice. They contain equipment and consumables at a level that reflects current casualty rates and requirements for 60 days in a combat environment.

Program Status

AMALs/ADALs are in a constant state of review and update to reflect changes in industry practices and standards of health care. The Marine Corps Systems Command also schedules entire systems reviews on a three-year cycle to discuss capabilities and concepts of employment, and translate them to material requirements.

Procurement Profile: FY 05 FY 06

Quantity: upgrades 8 8

Developer/Manufacturer:

Upgrades will be provided by various manufacturers, distributors, and prime vendor contractors throughout the United States.

Theater Medical Information Program (Maritime)

Description

Theater Medical Information Program (Maritime), or TMIP-M, provides clinical data collection and a data transport capability in a combat or hostile environment involving deployed forces. TMIP-M is a component of TMIP, which is a Department of Defense-directed joint program. TMIP-M, which includes both the Navy and Marine Corps, provides medical information processing capabilities to medical staffs in-theater, as well as medical planners and command-and-control elements at all echelons. TMIP-M provides a full suite of user-configurable support for all aspects of theater health services from patient-encounter data to medical logistics. TMIP-M will become the medical component of Global Combat Support System-Marine Corps (GCSS-MC).

Operational Impact

TMIP-M provides improved casualty tracking and treatment, and medical supply management. The majority of the data-entry and manipulation will be done by corpsmen, but all medical department personnel will interface with the system in some way.

Program Status

The program will be developed in two blocks. Pending successful evaluation during FY 05, the Marine Corps will field the Block I product to the health service support and medical logistics communities between FY 05 and FY 06.

Procurement Profile:	FY 05	FY 06
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Quantity:

Laptops:	268	555
PDAs:	700	1,400

Developer/Manufacturer:

Software and all associated software life-cycle support is provided by the TMIP-J program office.

Family of Incidence Response Systems

Description

The Family of Incidence Response Systems (FIRS) consists of equipment, systems, and services designed to provide federal, state, and local incident-response forces with the capabilities they need to effectively respond to a terrorist attack involving nuclear, biological, and chemical (NBC) and radiological agents, as well as high-yield explosives. FIRS is a “roll-up” program that fields more than 65 technologies to Marine Corps Chemical Biological Incident Response Forces (CBIRFs) and Marine Expeditionary Units (MEUs).

Operational Impact

The FIRS provides primarily commercial-off-the-shelf (COTS) technologies to meet the operational needs of Marine Corps responder forces. This commercial equipment is used in major cities’ Hazardous Material Units in the same operational environment that the

4th Marine Expeditionary Brigade (Anti-Terrorism) and CBIRF will operate. FIRS employs the same equipment as the Enhanced MEU NBC Capability Sets. Support for FIRS equipment is performed through a contractor logistics support arrangement.

Program Status

The FIRS program maintains an aggressive market research program to monitor commercial development. The market research program ensures that the CBIRF and the MEUs are provided leading-edge technologies for operational readiness. In conjunction with the CBIRF, the FIRS program office invites vendors to display their technologies at the CBIRF on scheduled Technology Demonstration days, which are focused on the operational mission of the CBIRF. The FIRS program office also manages the contractor logistics support that provides critical technical and operational training to the CBIRF and the MEUs.

Procurement Profile: FY 04 FY 05

Quantity: Various Various

Developer/Manufacturer:

Logistics Support Prime Vendor:

Battelle Memorial Institute,
Columbus, OH and Stafford, VA

Subcontractors:

Equipment manufacturers throughout
the United States

Transportation Coordinator's Automated Information for Movement System II

Description

Transportation Coordinator's Automated Information for Movement System II (TC-AIMS-II) is a joint, Army-led, Acquisition Category I(A)M automated information system, which is used for unit deployment planning and execution, traffic management, and movement control and coordination. TC-AIMS II supports the Department of Defense mission areas of deployment and mobility.

Operational Impact

When fielded, TC-AIMS II will facilitate the deployment, sustainment, and redeployment of Marine Corps forces, as well as any joint forces assigned to a Marine Corps-led Joint Task Force (JTF). In theater, the system facilitates reception, staging, and forward movement.

Program Status

TC-AIMS II is currently in the Test and Evaluation phase for Block Two. Operational testing for TC-AIMS II was held in April and May 2004 for Army and Navy units. Marine Corps testing has not been scheduled at this time. Testing will occur in Stafford, VA, when scheduled.

Procurement Profile: FY 05 FY 06

Quantity: Various Various

Developer/Manufacturer:

Dyncorp, Springfield, VA

Lightweight Helmet

Description

The Lightweight Helmet (LWH) is a direct replacement for the standard issue PASGT helmet. The LWH has improved ballistic protection capability over the existing PASGT helmet and will be 8 ounces lighter. The LWH also promotes enhanced combat effectiveness through greater comfort and improved fit. It features an improved suspension system that will reduce stress and fatigue.

Operational Impact

The LWH provides protection in various operating environments from fragmentation projectiles, as well as providing 9mm small arms protection. Overall fragmentation and ballistic protection will

exceed that of the current PASGT helmet.

Program Status

The LWH received Milestone C approval in May 2003. Initial operational capability occurred in second quarter FY 2004, with full operational capability slated for first quarter FY 2009.

Procurement Profile: FY 05 FY 06

Quantity: 25,000 12,200

Developer/Manufacturer:

Gentex Corporation, Carbondale, PA

All-Purpose Environmental Clothing System

Description

The All-Purpose Environmental Clothing System (APECS) is a product improvement to the second-generation Extreme Cold Weather Clothing System. Improvements include a 10- to 15-percent weight reduction; softer, quieter, and more water-resistant material; and, reduced infrared signature. The parka and trousers will provide improved protection for the Marines in cold/wet or cold/dry environments. The parka has improved waterproof closures, and the orientation of pockets has been modified to be more compatible with ancillary equipment. The parka also has a rolled and stowed hood, and reinforced elbows. The trousers have cargo pockets, belt and suspender loops, and knee and buttocks reinforcement patches. Improved waterproofing features, reduced weight, reoriented pockets, and the Marine Corps new camouflage pattern have also been incorporated into the design.

Operational Impact

APECS provides Marines with an improved outer protective layer, permitting greater ease of movement, protection, and wearer survivability.

Program Status

Initial operation capability took place in second quarter FY 2004. Full operational capability is anticipated by first quarter FY 2008. A new solicitation, with specific small business quantities, was awarded during fourth quarter FY 04.

Procurement Profile: FY 05 FY 06

Quantity: 32,000 26,000

Developer/Manufacturer:

Propper International, St Charles, MO

Small Business to be determined.

Improved Load Bearing Equipment

Description

The Improved Load Bearing Equipment (ILBE) is designed to provide a durable and lightweight means for the deployed Marine to transport his or her individual combat clothing and equipment. Major proposed improvements include durability, comfort of wear, reduced system complexity, reduced system weight and sustainability, and greater integration with the Outer Tactical Vest.

Operational Impact

An improved load-bearing system will result in less fatigue and more combat effectiveness during the execution of assigned missions.

Program Status

Milestone C approval for full-rate production of the pack occurred in August 2003. The equipment was fielded in January 2004. A contract award for the Assault Load Carrier (ALC) element took place in second quarter FY 2004, with production starting in third quarter FY 2004. (The existing Fighting Load Carrier will continue to be used until the ALC is fielded.) Initial operational capability was achieved in fourth quarter FY 2004. Full operational capability is slated for first quarter FY 2009.

Procurement Profile: FY 05 FY 06

Quantity: 35,000 23,000

Developer/Manufacturer:

Propper International, St Charles, MO

Assault load carrier: TBD

Small Arms Protective Insert



Description

The Small Arms Protective Insert (SAPI) consists of interchangeable ceramic plates that are inserted into the front and back of the Outer Tactical Vest to increase a Marine's protection against small arms fire and fragmentation projectiles. SAPI is capable of defeating multiple hits from small arms fire of up to 7.62mm caliber at muzzle velocity.

Operational Impact

SAPI greatly increases the survivability of Marines on the battlefield. The lives of numerous Marines and soldiers were reported saved during Operations Enduring Freedom and Iraqi Freedom as a result of using SAPI plates.

Program Status

Procurement to the original acquisition objective of 133,000 (two plates per Marine in the Ground Combat Element) was completed during fourth quarter FY 2003. As a result of feedback from operating forces in Operation Iraqi Freedom, the acquisition objective has been raised to 267,000. A new competitive contract was awarded in fourth quarter FY 04.

Procurement Profile: FY 05 FY 06

Quantity: 18,000 12,000

Developer/Manufacturer:

Initial Contractor: Simula Safety Systems,
Phoenix, AZ

New Contractor: TBD

Advanced Mine Detector

Description

The Advanced Mine Detector (AMD) is a battery-operated, hand-held mine detection device consisting of an electronics control unit with an integrated power supply, processor, radio frequency (RF) antenna, and a hand-held wand with sensor and controls. The AMD combines metal detection and ground-penetrating radar to detect all known metallic and low-metallic landmines.

Operational Impact

AMD is a replacement for the aging AN/PSS-12 metallic mine detector, which uses only metal detection technology.

Program Status

The AN/PSS-14 has been accepted as the material solution to the AMD Operational Requirements Document (ORD). The fielding of 78 AN/PSS-14s took place in February 2004, after being identified as an urgent UNS requirement for Operation Iraqi Freedom.

Procurement Profile: FY 05 FY 06

Quantity: 10 30

Developer/Manufacturer:

CyTerra Corporation, city/state?

Defense Integrated Military Human Resources System

Description

The Defense Integrated Military Human Resources System (DIMHRS) is a Department of Defense initiative to develop a joint-integrated pay and personnel management system. The Marine Corps is participating in this Navy-led initiative. DIMHRS will provide the military services and their components better command and control during peacetime, war, reservist and guard activation, and as commands move in and out of theaters around the world. DIMHRS will more effectively afford the pertinent and timely data for major decision-makers.

The DIMHRS Personnel and Pay (Pers/Pay) program will be a single, standard military system that supports military members of all services. It will collect, store, pass, process, and report personnel and pay data within a single database. DIMHRS (Pers/Pay) is an Acquisition Category I development effort that is being managed by the DIMHRS (Pers/Pay) Joint Program Management Office (JPMO), Space and Naval Warfare Systems Command Information Technology Center, New Orleans, LA. DIMHRS is scheduled to subsume many legacy systems, to include

functionality currently performed by the Marine Corps Total Force System (MCTFS).

Operational Impact

The DIMHRS will enhance fleet operations by offering greater capability in making personnel and pay data changes more quickly and efficiently. Additionally, DIMHRS will reduce data collection and reporting requirements, improving current business processes.

Program Status

The program is looking to enter Milestone C the end of fourth quarter FY 05, which is, dependent on the Secretary of Defense decision on program acceleration and the availability of funds to execute the new schedule.

Procurement Profile:

TBD

Developer/Manufacturer:

Northrop Grumman Corporation,
New Orleans, LA

